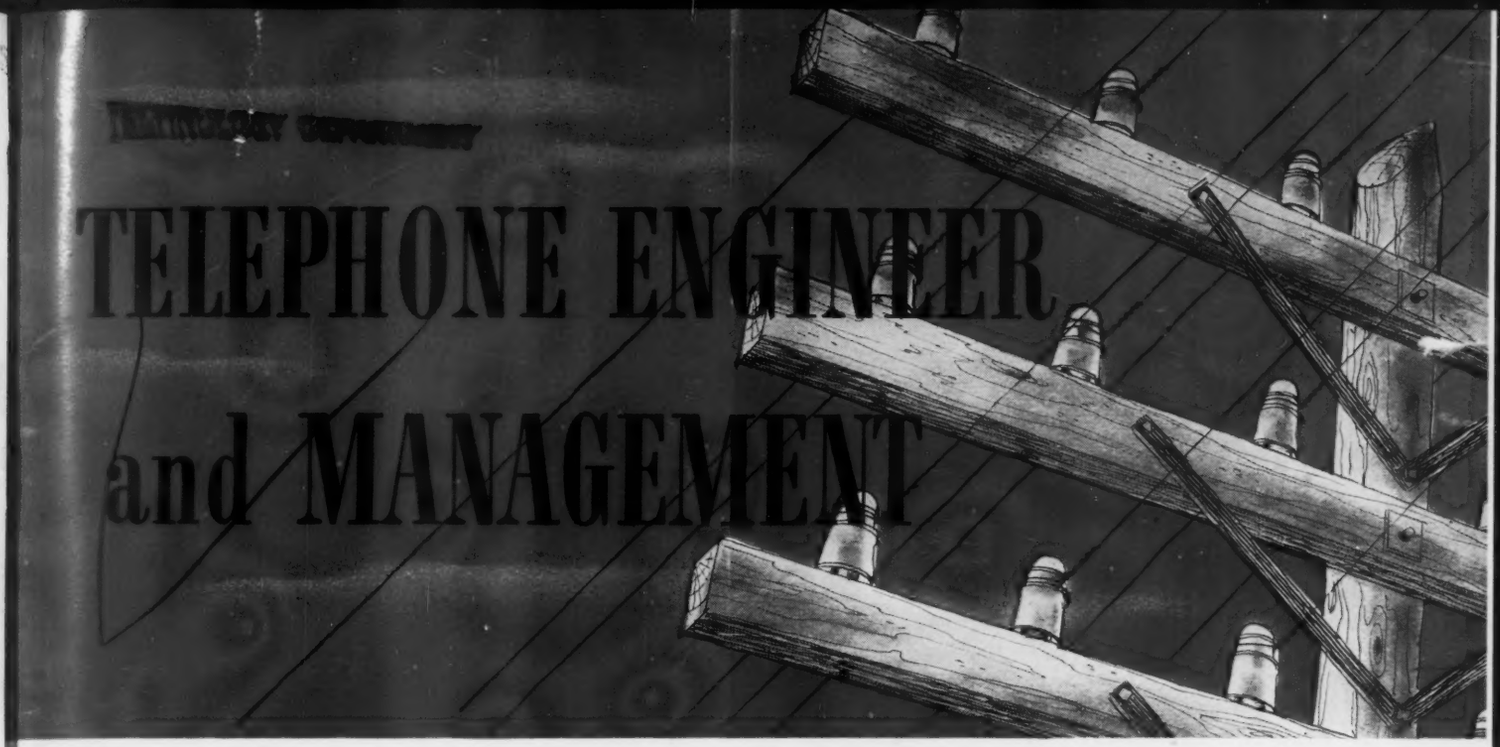

TELEPHONE ENGINEER and MANAGEMENT

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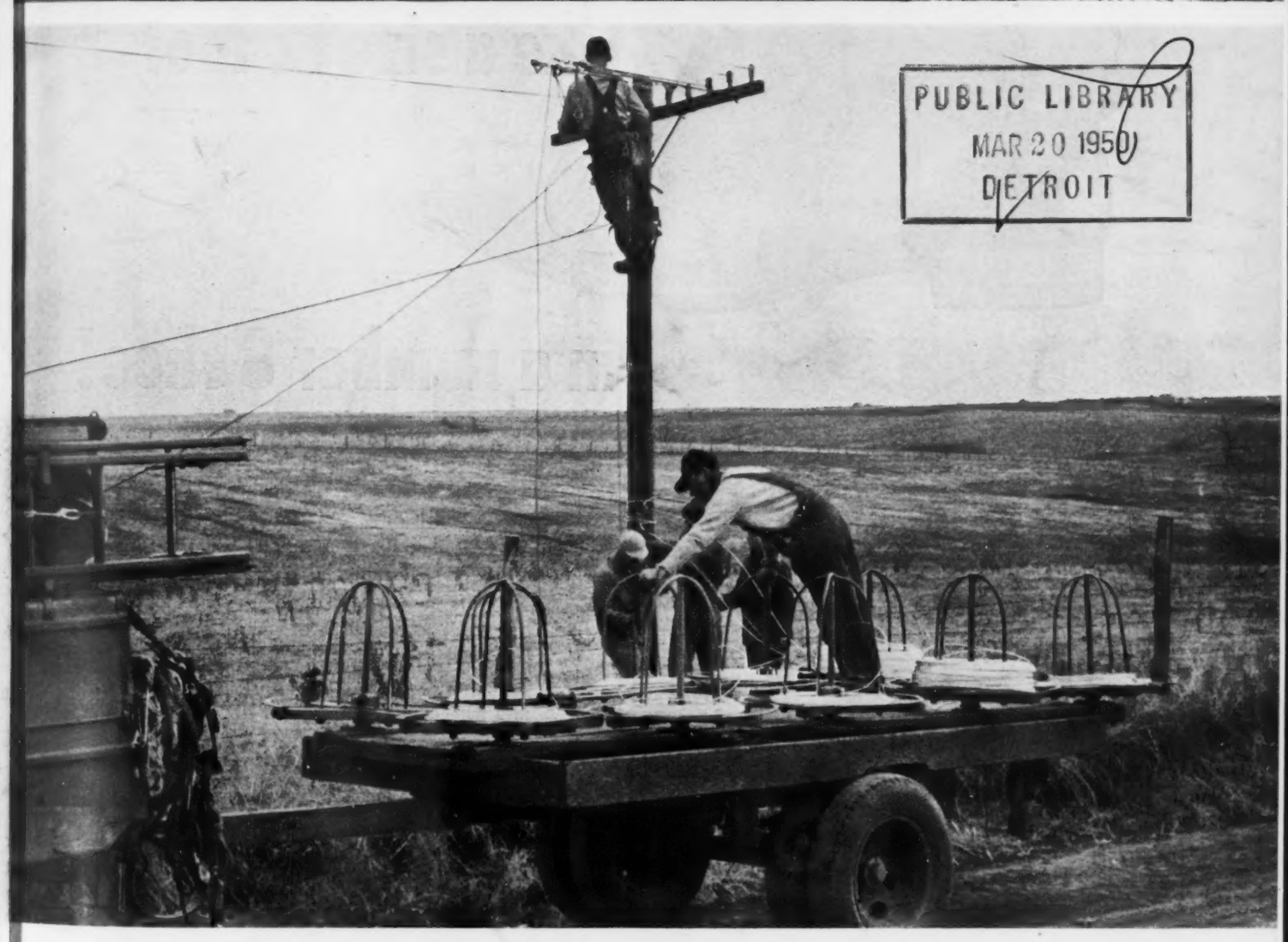

MARCH, 1950

Like a size 12 foot

in a number 8 shoe!

Publishing successful telephone directories is a specialized business. All phases of this work including *planning, sale of advertising, compilation, proofreading and printing* must be done according to a proven plan. This plan must be flexibly designed so that it is readily adaptable to the needs of each telephone company. Lacking this flexibility the application of a set procedure is as awkward as trying to fit a size 12 foot in a number 8 shoe.

Our Complete Directory Service Plan is adaptable to the needs of your Company. It will work as successfully for you as it is now working for 3600 other cities and towns across the country.

Call our representative for complete information regarding the application of our Plan to your Telephone Directory problems.

TELEPHONE COLLECT OR WRITE TO ONE OF THE OFFICES LISTED BELOW FOR A REPRESENTATIVE TO CONTACT YOU.

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G. Daniel Baldwin Building, Erie, Pennsylvania • Telephone 2-4187

420 Columbia Street, Lafayette, Indiana • Telephone 4854

Washington Building, Madison, Wisconsin • Telephone Fairchild 6026

WESTERN OFFICES

604 Pine Avenue, Long Beach 12, California • Telephone 6-7221

1220½ Texas Avenue, Lubbock, Texas • Telephone 2-6330

Peyton Building, Spokane, Washington • Telephone Main 8644

GENERAL TELEPHONE DIRECTORY COMPANY

Nation-wide Publishers of Telephone Directories

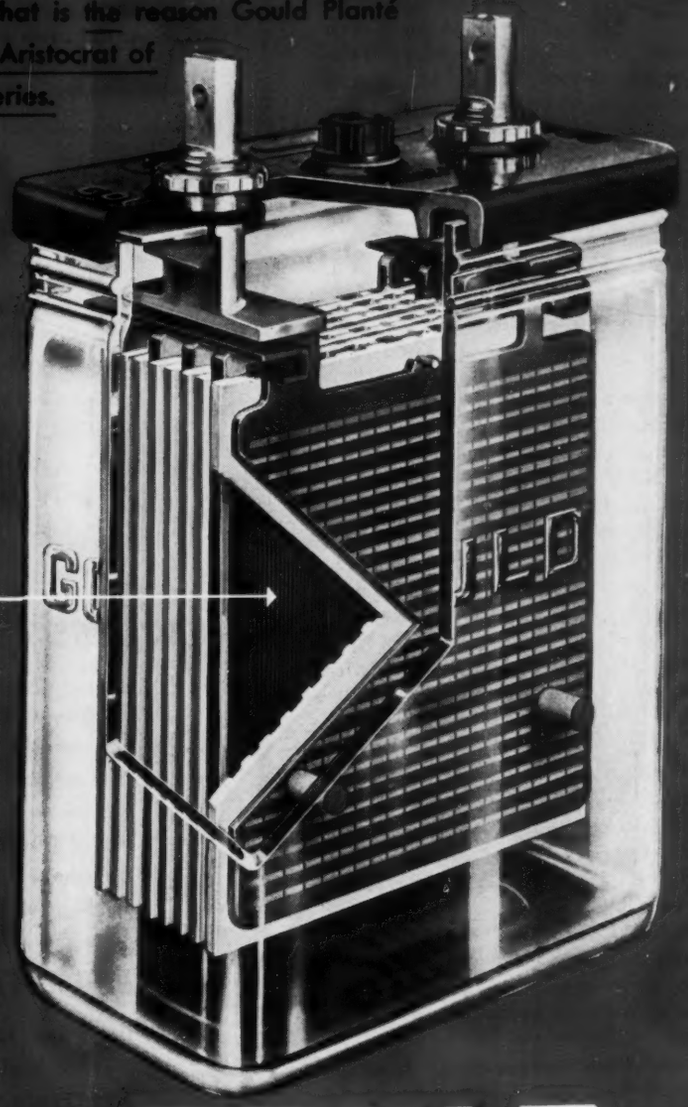
HERE'S WHY YOU GET LONGER LIFE WITH GOULD PLANTÉ

Planté positive plates are pure lead. They contain no antimonial impurities to contaminate the negative plates. That is the reason Gould Planté is universally accepted as the Aristocrat of Stationary Batteries.

PURE LEAD MEANS SERVICE

Batteries on full float service require a small current to offset normal self-discharge. This self-discharge is due primarily to migration of antimonial impurities from the positive grids or grid frames to the negative plates. As the self-discharge rate increases, more and more antimony is transferred to the negative plates. The cycle is repeated with increasing tempo until the positive grid fails completely.

Gould Planté batteries contain no antimonial impurities. Their voltage requirements and capacity remain constant throughout their amazingly long, low-cost life.



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Other Gould types—Floté, Kathanode and Dreadnaught—are designed to meet the diverse capital expenditure, cost, service, and capacity requirements of switchgear, alarm system, emergency light and power, or telephone battery users.

The Gould "Battery Selector," GB-852, gives full information. Write for your copy, now.

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STORAGE BATTERY CORPORATION

TRENTON 7, NEW JERSEY

Always Use Gould Automobile and Truck Batteries

Across The Editor's Desk

Telephone convention season moved into "high gear" in March with meetings of Texas Telephone Association on March 6-8 and Kentucky Independent Telephone Association, March 14. Illinois Telephone Association meets at Abraham Lincoln Hotel, Springfield, Mar. 22-23, and Nebraska Association will hold its 50th annual convention March 28-29, Paxton Hotel, Omaha . . . Your telephone convention is of vital importance. Check the list of coming conventions on page 43 of this issue and plan to attend the meeting of your group.

• • •

Congratulations to . . . ROSCOE D. PONTIUS, Rochester, Ind., on his recent marriage to MISS DOROTHY VAN KEUREN of Indianapolis . . . DENVER HARLAN, recently elected executive vice president Richmond (Ind.) Telephone Co. . . . BILL MILLER, secretary Iowa Independent Telephone Association, for excellent handling of news presentation in "The Transmitter," new Iowa Association publication.

• • •

USITA Executives' Conference, Greenbrier Hotel, White Sulphur Springs, W. Va., April 10-11 is expected to be most important ever held. Our special train—"TELEPHONE ENGINEER SPECIAL" leaves Chicago, Sat., April 8. See NEWSLETTER item on page 11 for details. You're invited to make Chicago your meeting place and join your friends going to conference.

• • •

New Ohio corporation, Lindsay-Spencer Co., 7016 Euclid Ave., Cleveland, Ohio, started operation Mar. 1, following stockholders' agreement to dissolve Lindsay Supply Co. and reorganize. LLOYD L. SPENCER, former vice president, sales, Stromberg-Carlson Co., is president of new corporation; Thomas C. Lindsay, son of founder & former president of Lindsay Supply is vice president & treasurer; R. G. Nelson is secretary. All principals of new organization have background of long experience in serving Independent telephone industry.

The National Telephone Magazine

TELEPHONE ENGINEER and MANAGEMENT

MARCH, 1950 **VOL. 54, NUMBER 3**

Editor, RAY W. SMITH • *Advertising Director*, ROY F. SMITH
Managing Editor, JOHN G. REYNOLDS • *Promotion Manager*, DON C. SORENSEN
Washington Bureau, ROLAND C. DAVIES *and* FRED HENCK
Circulation Mgr., JOYCE BOHLIN • *Production Mgr.*, MARGARET INDIA

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Front Cover: Lincoln (Neb.) Tel. & Tel. Co. linemen use special ten-reel trailer at start of pulling in operation.

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It's no trick

TO CUT REPLACEMENT COSTS WITH U·S·S CREOSOTE OIL

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If you're interested in cutting replacement costs in future years, make sure that U·S·S Creosote Oil is used in all your wood-treating operations. If you'd like additional information, contact the nearest sales office listed below; there's no obligation.

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The Spring Construction & Maintenance issue of
TELEPHONE ENGINEER and MANAGEMENT
APRIL 15
Will be a 4 Star Special.
★ ★ ★ ★
Every telephone man should have his own individual copy.

Are You Bothered With Service Complaints Due to "Hum" or Induction Noise?

Read.. How B. C. Burden Treats This Bothersome Problem

"Inductive Interference On The Rural Line," by B. C. Burden . . . Since most inductive noise results from power lines, Mr. Burden's article in The Spring Construction issue of TELEPHONE ENGINEER AND MANAGEMENT (April 15) will deal with this type of interference. His article will thoroughly discuss and illustrate modern ways and means of minimizing induction interference. To the company now faced with constant service complaints due to "hum" or induction noise, this article is must reading.

Read . . . How John S. Reed Rebuilds a Typical Rundown Outside Plant

"Rebuilding The Rural Outside Plant," by John S. Reed . . . In this first article of a series of six installments, Mr. Reed has created a mythical small company faced with the task of rebuilding its rural plant. After creating the company and explaining its problems, Mr. Reed will take the job from the inspection to determine necessary work, right through actual construction of the plant.

Every phase of the work from setting the poles, stringing of wire through installation of subscribers' station equipment, will be carefully explained and illustrated by photographs and drawings showing how each job is performed . . . In order to make this valuable series available to the industry in the shortest possible publication time the installments will run in consecutive issues of TELEPHONE ENGINEER AND MANAGEMENT and FORTNIGHTLY TELEPHONE ENGINEER. If you are not receiving both magazines sign and send in the subscription order today.

The first of six installments will appear in **The Spring Construction & Maintenance issue of TELEPHONE ENGINEER and MANAGEMENT, April 15.**

"Money Saving Construction Methods," by Richard Allen . . . Mr. Allen has prepared a pictorial article illustrating and discussing modern construction and installation methods that are saving $ $ $'s for many telephone companies. These new, "straight-from-the-field" suggestions can be put to work for your company.

"How-To-Do-It Suggestions," by John G. Reynolds . . . This popular feature department has a lineup of suggestions for those responsible for the design, construction and maintenance of outside telephone plant. Here are a few of the practical ideas planned for the April 15, TELEPHONE ENGINEER AND MANAGEMENT—"Material Handling Machine For Poles and Cable Reels" . . . "Tree Felling Jack for Guiding Direction of Tree Fall" . . .

The above exclusive features plus—Handbook Tables—"Small Company Talk," by Bill Corman—"Questions & Answers," by Jay G. Mitchell—New Products' Showcase—Free Literature—Telephone Engineer Newsletter—"Washington Bureau Reports", by Roland Davies and Fred Henck—and other features round out a typical issue of TELEPHONE ENGINEER AND MANAGEMENT.

Every telephone man should have his own individual copy of TELEPHONE ENGINEER & MANAGEMENT each month. Use this coupon if you do not regularly receive a copy of your own.

TELEPHONE ENGINEER & MANAGEMENT
7720 Sheridan Road, Chicago 26, Ill. 1950

Here is $2.00 covering TELEPHONE ENGINEER & MANAGEMENT & FORTNIGHTLY for 12 months. Be sure to send me the April, Spring Construction & Maintenance issue.

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Company .....

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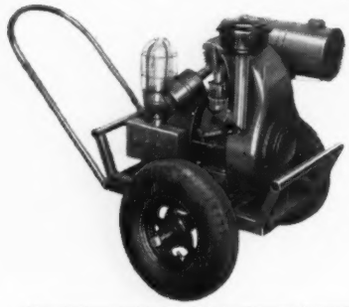
SAFETY CLUTCH MAKES "KA-MO" DRILLS

Generator (2½ kw a-c, or 3 or 5 kw d-c, as specified) connects directly to motor of drill, is approximately 36" long, 25" high, 19" wide. DC types give more power; AC type may be preferred, for emergency standby service. A light but strong generator dolly (see illustration) is also available.



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The patented safety clutch on the new "Ka-Mo" earth drill saves time—makes drilling easier—permits greater operating economy. When rocks, stumps or other snags are encountered, safety clutch disengages, allows immediate shifting of drill for new bite. No lost time replacing shear pins.

"Ka-Mo" earth drills are available for air or for electric operation. Will drill at any angle in mud, sand or clay without grabbing. Ideal also for installing ground rods and screw anchors.

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A Simple, Up-to-the-minute Guide to Telephone Fundamentals

to give you the groundwork you need for best results in practical work

This first new telephone book in years tells how modern telephone systems operate, giving the electrical theory and the technical information on equipment and circuits that will be most helpful as a foundation for the non-engineering worker in telephone installing, servicing, etc.

FUNDAMENTALS OF TELEPHONY

374 pages, 5½x8½, 200 illustrations, $3.75

This book provides the telephone worker with an understandable treatment of the technical aspects of his work, valuable as a key to better results and improved skill in any job he may undertake. The fundamentals of electricity and acoustics are covered, followed by a full elementary treatment of telephone equipment and circuits, their elements, characteristics, functions, etc., illustrated by many numerical examples.

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Oak pole brackets of unquestioned quality are in demand now as never before in the face of the qualifications necessary in the equipment and materials needed today to "keep 'em talking." Present day maintenance and repair have every reason to demand and get only the best.

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Research and experiment have produced in Hemingray insulators a glass insulator that is better than any ever before offered.

Non-porous, non-deteriorating, uniform coefficient of expansion and high mechanical as well as high dielectric strength are some of the many qualities that rank Hemingray the "best on the line."

BUCKEYE TELEPHONE and SUPPLY CO.

COLUMBUS 6, OHIO

FOR GREATER SAFETY...

LOWER RESISTANCE...

RUST-PROOF PROTECTION

Only Copperweld Ground Rods Are Stamped "Copperweld"—The Mark Of Permanent Grounding Protection

Copperweld TRADE MARK

GROUND RODS AND CLAMPS

Over a 25-year period, Copperweld* Ground Rods and Clamps have provided increased safety for persons and equipment and have proved their superiority in service wherever driven ground electrodes are required. These practical features are sound reasons why millions of Copperweld Ground Rods and Clamps are giving permanent grounding protection:

1. **Molten-Welded**—Perfect interlocking weld between the copper and alloy steel eliminates possibility of electrolytic action. No other ground rod has this unique Molten-Welded feature.
2. **Extra Strength**—Rugged core of alloy steel is stronger—tougher—stiffer. Easy driving is assured.
3. **High Conductivity**—Thick sheath of pure copper provides high electrical conductance. Copper-to-copper contacts throughout eliminate high resistance connections.
4. **Non-Corrosive**—Rust-proof, thick copper covering permanently protects alloy steel core against corrosion.
5. **Overall Economy**—Long service life with no maintenance costs. Safe, sure, permanent grounding protection for all types of installations.

Consider these advantages in relation to your own grounding requirements—then plan to standardize on ground rods that are stamped "Copperweld."

MADE BY
COPPERWELD STEEL COMPANY
GLASSPORT, PA.

*Trade Mark

Copperweld TRADE MARK **GROUND RODS AND CLAMPS**

stocked and sold by { **HUBBARD AND COMPANY • JOSLYN MFG. & SUPPLY CO.**
And All Their Distributors

In any **MODERN** switchboard installation–

Photo courtesy of Stromberg-Carlson

the choice is **ACCURATE AUTOMATIC TOLL TIME CALCULATING AND RECORDING**

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Because they quickly save many times their initial cost, **CALCULAGRAPH** permanent printed records eliminate switchboard detail work, speed service. Accuracy-to-the-second permits collection of all the revenue due on every call. **CALCULAGRAPHS** are precision instruments featuring high visibility dials, smooth silent lever action. Available in several models, they can be engineered into new equipment by your switchboard builder or easily included in your present set-up. For complete information just call or write.

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THE STANDARD OF ACCURACY SINCE 1892

NEWSLETTER
TELEPHONE ENGINEER

Fortnightly TELEPHONE ENGINEER ★ TELEPHONE ENGINEER AND *Management*

ON THE 1st OF EACH MONTH ON THE 15th OF EACH MONTH

NEWSLETTERS *on Alternate Weeks*

March 15, 1950

Dear Sir:

"TELEPHONE ENGINEER SPECIAL" to Greenbrier Hotel, White Sulphur Springs, W. Va., to United States Independent Tel. Assn. Executives' Conference April 10 & 11 will provide special cars including lounge for exclusive use of telephone people. Many reservations for telephone men and women already confirmed. You folks from North, Northwest and west coast especially instruct railroad agent to book on special. Wire us if you need help. Train leaves Chicago Saturday, April 8 at 1 p.m. permitting attendance Easter service at one of several churches at White Sulphur Springs.

What to do: Make hotel reservations to hotel. Make train reservations for "TELEPHONE ENGINEER SPECIAL" with Ralph B. Goodman, Dist. Pas. Agt., Chesapeake & Ohio Railway, Utilities Bldg., Chicago. Telephone: WAbash 2-1480. He will confirm your reservations on the special cars for telephone folks. DO NOT DELAY MAKING YOUR RESERVATIONS. Make Chicago your meeting place & join your friends going to conference.

* * *

Making its second rural telephone loan, this time to company in home state of Rural Electrification Administrator Claude R. Wickard, REA announced March 3 authorization of $45,000 loan for New Lisbon (Ind.) Tel. Co. Loan will provide funds to replace present switchboard & station equipment with dial apparatus, build fireproof exchange building, install ¾ of mile of underground cable, replace small portion of company's 69 miles of rural lines, & build number of short extensions, REA declared.

Company, now serving 331 subscribers, (we regret typographical error in March 10 NEWSLETTER, correct number of subscribers is 331—not 33 as reported) will be able to add 134 after improvements, REA reported. Company will be able to provide 24-hour per day service instead of present 16-hour service; will reduce maximum number of parties on line from 15 to 10, & will provide selective ringing. Mr. Wickard said that in making loan REA considered company's 49 years of successful operation, & the economic stability of productive agricultural territory which it serves.

* * *

President Truman has nominated Kenneth W. Spencer as member of District of Columbia Public Utilities Commission, succeeding James W. Lauderdale, who resigned to enter private law practice. In an important commission selection, members of Nebraska State Railway Commission, under their long-standing rule of rotating commission chairmanship, recently elected Harold A. Palmer as chairman. Mr. Palmer succeeds Walter F. Roberts. Richard H. Larson was named vice chairman. In Tennessee G. Edward Friar, 34-year old, Knoxville lawyer was elected general counsel for Tennessee Railroad & Public Utilities Commission, succeeding Frank

G. Clement, who is resigning effective April 1 to enter private practice of law. Tennessee commission abolished post of assistant general counsel, formerly held by Ernest M. Hawkins, Jr.

* * *

In order which requires Southern Continental Tel. Co. to spend not less than 10% of amount of its book cost of telephone plant for maintenance during 1950, & make gross additions to plant of not less than $300,000, Kentucky Public Service Commission granted company rate increase of $97,000. New rates expected to produce rate of return of 5.02% on net book value & working capital. About $61,000 of increase is offset by added wage costs under new 75-cent minimum wage.

In Idaho rate case involving Interstate Tel. Co., operating about 17,000 stations in Idaho, rate increase of $81,000 has been approved by Idaho commission. Company had asked for additional revenue of $95,000.

* * *

House Appropriations subcommittee in hearing Federal Communications Commission request for funds for coming fiscal year devoted considerable attention to common carrier & safety & special services questions. Of particular interest to subcommittee members were questions of telephone rates & depreciation, with financial situation of Western Union also receiving attention.

FCC Chairman Wayne Coy informed House group that under Commission's long-pending reorganization plan, new Common Carrier Bureau will go into operation first. With approval of job classifications & descriptions by Civil Service Commission, new functional staff organization is expected to be ready for FCC approval in near future. Under plan, Safety & Special Services Bureau would be organized next, with Broadcasting Bureau last on list. FCC Chairman indicated at several points, thinking along lines that further Long Lines telephone rate reduction might be considered. He emphasized recent depreciation rate revisions worked out with A.T.&T. Long Lines Department, declared that difference of nearly $5 million would result in license contract service payments if Long Lines paid 1% of its revenues to A.T.&T. General Department rather than actual cost of the services. Mr. Coy said difference would be about $5 million year reduction.

* * *

HIGHLIGHTS . . . $676,000 telephone expansion program in Minot, N.D., & between Minot & Bismarck will be completed in next few months. Program includes $226,000 investment by Northern States Power Co. & $450,000 N.W. Bell project. . . . Southeast Nebraska Tel. Co. completed automatic conversion projects at Stella & Shubert, Neb. . . . Greeley county Tel. Co. completed installation of automatic equipment at Tribune, Kans. . . . John Vlotho Jr., completed 26 years as mgr., Ireton (Ia.) Rural Tel. Assn.

Ray Smith

Ray W. Smith, Editor

Let's Talk Facts . . .

Over 50,000,000 In Use Must Prove Something

There is no greater confirmation of merit of any product than its acceptance in the field. Therefore, judging by such continued acceptance of the Reliable Drop Wire Clamp, it must be reasonable to assume that this original design, which has been improved many times to meet changing conditions, is a product of confirmed efficiency and economy. There are two types:

Type "P"—for No. 17 reinforced parallel. (The Type "P" Clamp holds all other drop wires well at moderate tensions, but tends to concentrate its pressure on a small area under heavy loads.)

Type "PS"—for other No. 17 constructions and all No. 18. (The "PS" Drop Wire Clamp — priced only slightly above the Type "P"—is built to avoid any concentration of strains on wires which are smaller, and which may be structurally weaker than No. 17 parallel reinforced. Even under breaking loads the "PS" Clamp supports the drop without damage.)

Telephone Protective and Terminal Equipment For All Station, Line and Central Office Needs.

If you are not using Reliable Drop Wire Clamps now — ask for a sample and test it yourself!

Build for the future — always specify Reliable Drop Wire Clamps.

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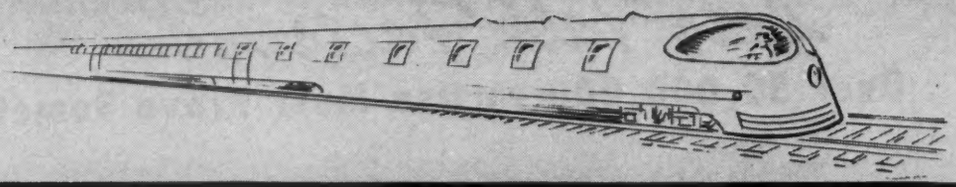
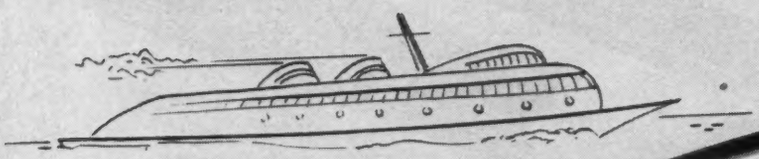


what will the telephone of the future be like?



WE'VE GOT IT NOW!

KELLOGG Masterphones

(1000 SERIES)

In your modernization plans take a long, thoughtful look into the future! Be sure the telephones you install now will meet the standards you and your subscribers will both demand in the years to come.

You can be sure they will if you wisely choose KELLOGG Masterphones. *Right now,* you'll find in these great telephones the features that telephone men will still be praising, enthusiastically, long after your investment has been fully amortized.

Standardizing on KELLOGG Masterphones in your hedge against premature obsolescence!

Look at these "Features of the Future"

. . . and don't accept any telephone that offers you less. They're *just a few* of the all-important superiorities you'll find at the present time in KELLOGG Masterphones — and *only* in Masterphones.

SIDE-TONE CONTROL KELLOGG Masterphones assure "true-tone" transmission and reception — with side-tone qualities equivalent to those of face-to-face conversation. Compare Masterphone against any instrument you know!

ZONING CONTROL By means of simple linkage adjustment for long, short or medium loops you provide every subscriber throughout the exchange area with uniform transmission.

SINGLE BASE PLATE All integral components of the Masterphone are on a single base plate. Dial, induction and universal condenser coils are plug-in type. No other telephone approaches Masterphone for ease of maintenance, adjustment or installation! Single base assembly serves all models—desk or wall, dial or manual. Think what this means in inventory savings!

UNIVERSAL INTERCHANGEABLE COMPONENTS With KELLOGG Masterphone it is never necessary to sacrifice quality of performance for lower costs! Your subscriber gets the kind of service he likes—and appreciates. You get the advantages and economy of mass production that reduces substantially your expense for a premium quality telephone instrument.

Don't let another day pass without getting all the facts about Kellogg Masterphone — all the reasons why it enables you to have the telephone of the future RIGHT NOW! Write us today!

KELLOGG SWITCHBOARD AND SUPPLY COMPANY

MASTERPHONES

6650 SOUTH CICERO AVENUE • CHICAGO

EVERYTHING IN TELEPHONE EQUIPMENT

Factory and Offices of
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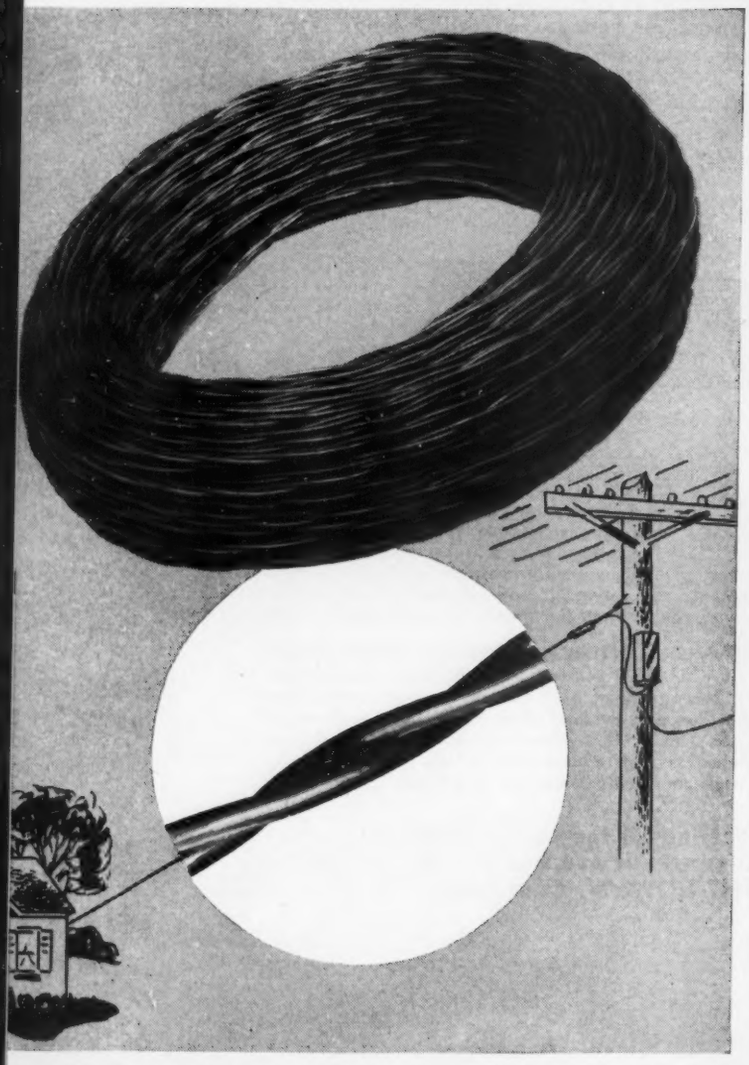
Manufacturers as well as distributors of the finest quality equipment and supplies for the independent telephone field for over fifty years.

Get Maximum Battery Performance by choosing Gould Planté and Floté Batteries exclusively. They're built specifically for full float service over amazingly long periods of time. Telephone men everywhere find they cut maintenance and replacement costs to a minimum. Manufactured by GOULD STORAGE BATTERY CORP. Write for details.



Drop Wire Lasts 30% Longer! GENERAL INSULATED WIRE WORKS Bronze Drop Wire lasts longer because it's drawn of solid, non-corrosive, high-conductivity bronze and covered with Neoprene—the insulation that stands hardest use. Wire is easier to handle for it combines high tensile strength with flexibility. Also available in Copperweld.

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PROMPT HANDLING
QUICK SHIPMENTS

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When you order from Kellogg, you fill out just ONE order form for *all* your line supplies. Saves you time and work! Then your order gets prompt attention by experienced telephone men. No chance for slip-ups here! Finally, we ship quickly, from the distribution point nearest you. It's fast, sure service, and every item is *guaranteed!*

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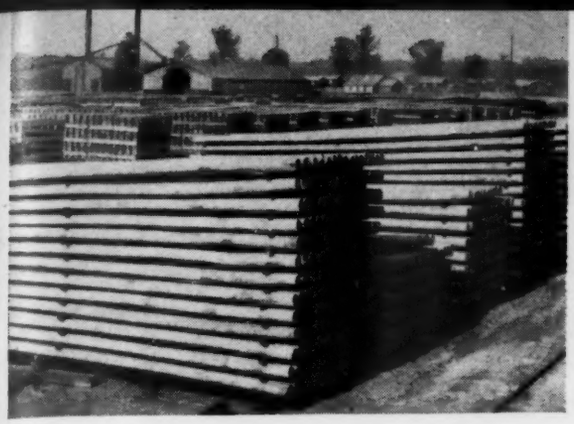
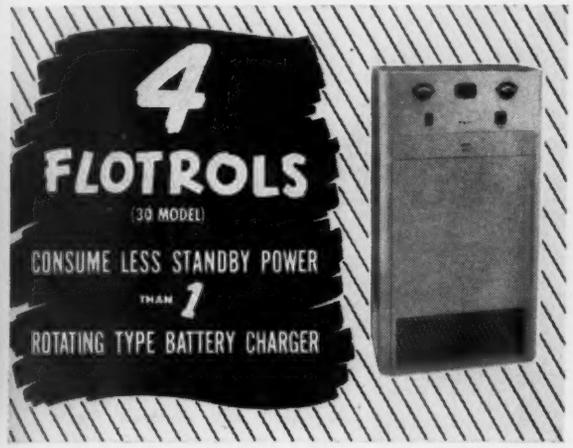
ALL OF THE ABOVE ITEMS MAY BE QUICKLY AND CONVENIENTLY ORDERED FRO HE



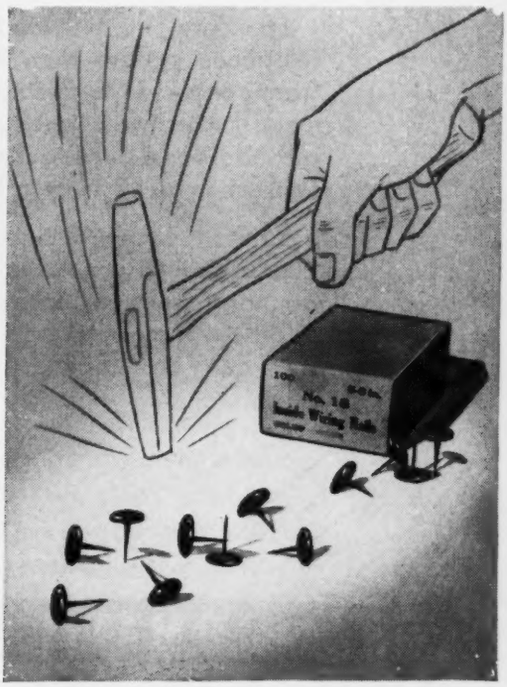
Time Proven! Creosoted Yellow Pine Poles supplied by Moss are carefully selected for quality—expertly handled through seasoning and creosoting stages. Poles are shipped as scheduled by the purchaser. Look for "The Stamp of Character" on poles Manufactured by T. J. MOSS TIE COMPANY.



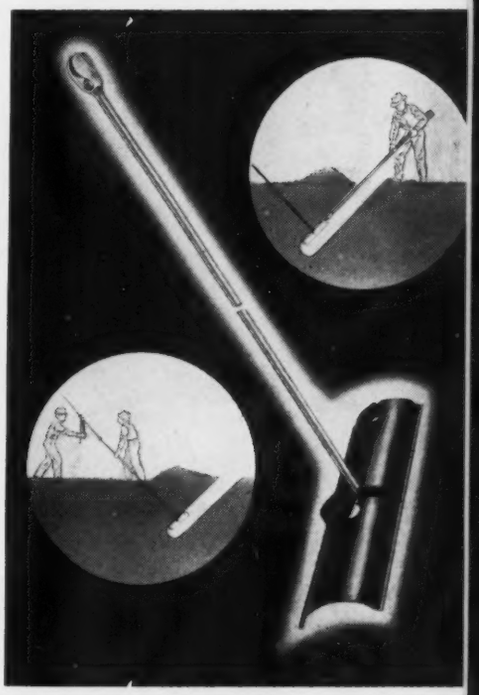
4 FLOTROLS (Model 3) Consume Less Standby Power than 1 Rotating Type Battery Charger. Provides automatic charging control without moving parts. Switching and control panels eliminated. Flotrol Automatic Charger gives real power savings with low standby loss. Made by LORAIN PRODUCTS CORP.

"City of Chicago is almost utterly destroyed by fire," telegraphed Gen. Sheridan from the flame-swept city, Oct. 9, 1871. Serving through many such historical moments, Hemingray Insulators have kept pace with communications needs. Today, made by AMERICAN STRUCTURAL PRODUCTS CO., they are accepted as standard by the industry.

Sealed against Trouble! Communication equipment manufacturers demand Kester Plastic Rosin-core Solder, because it makes a perfect seal. Prevents high-resistance joints and intermittent open-and-closed circuits. Avoid trouble with KESTER SOLDER COMPANY solder.



Why do it the hard way? Making neat installations is easy—with Rhodes Wiring Nails! Designed for telephone work with quality insured by driving, bending, withdrawing and immersing tests. Made by M. M. RHODES & SONS CO., in several colors and pin-lengths.



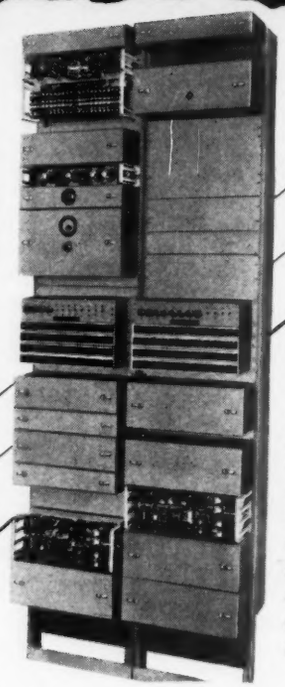
Poles Stay Put! A. B. CHANCE Never-Creep Anchors are ideal for normal guying, for they pull against solid earth. 5 easy steps install these anchors: (1) Bore hole, (2) Drive rod, (3) Hang "Never-Creep" plate, (4) Tighten guy, (5) Fill in hole—and the job is done!

THE KELLOGG SWITCHBOARD AND SUPPLY COMPANY

PROVIDE A "SUPERHIGHWAY" for Your TELEPHONE TRAFFIC

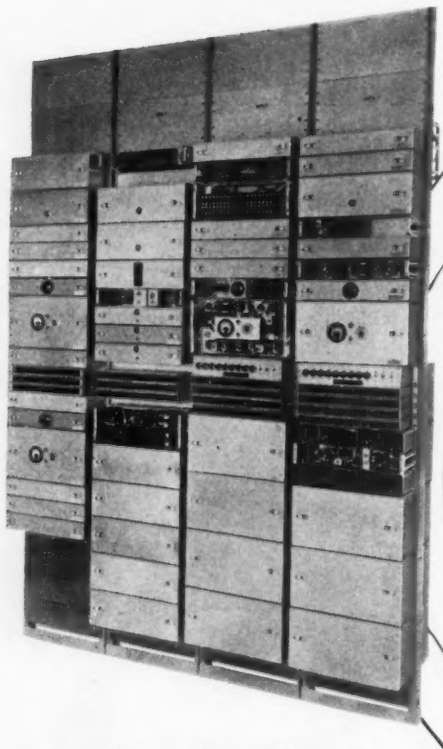
with *Lenkurt* TYPE 42
MULTI-CHANNEL
(HIGH-FREQUENCY)

CARRIER TELEPHONE SYSTEMS



Twelve channel Type 42C terminal assembly

FOR TWO-WIRE CIRCUITS, the Lenkurt Type 42C will provide 4, 8 or 12 channels in the 36-to 148 kc band. For multiple system arrangements, staggered and inverted frequency allocations are used to reduce inter-system crosstalk interference.



Here are two new models of a "field-proven" carrier telephone system that will give you immediate relief from congested traffic conditions. Even if your lines are loaded with low-frequency carrier systems, you can still get additional carrier channels by adding the particular Lenkurt Type 42 system best suited to your needs.

Lenkurt Type 42 systems are economical to buy, economical to install and economical to operate. They do not require extensive outside plant alterations. In addition, they open an entirely new field in which carrier can be applied. Send today for descriptive literature.

Twenty-four channel Type 42B terminal assembly

FOR FOUR-WIRE CIRCUITS, the Lenkurt Type 42B will give you one to 36 channels as needed. Each channel utilizes a 4 kc bandwidth in the 4-to 148 kc band. To meet your specific needs, standard or convertible ring-down, or dial signaling circuits may be operated "speech-plus" in each voice channel.

MANUFACTURED FOR

AUTOMATIC ELECTRIC

Originators and Developers of the Strowger Step-by-Step "Director" for Register-Sender-Translator Operation . . . Machine Switching Automatic Dial Systems
Makers of Telephone, Signaling and Communication Apparatus . . Electrical Engineers, Designers and Consultants

Distributors in U. S. and Possessions: Automatic Electric Sales Corporation
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Preformed? YES!
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FORM-SET STRAND HAS BOTH ADVANTAGES

In recent months a good many users of strand have decided that Bethlehem's Form-Set will do a better job for them. Maybe you've reached that decision yourself. You've investigated Form-Set and learned that its preformed construction makes it easier to handle . . . easier to insert in fittings . . . because, when cut, Form-Set doesn't unravel or "bush out" at the ends. But possibly you haven't thought to ask whether it's available with a bethanized coating.

The answer is yes! In fact, bethanizing is standard on all types, grades, and sizes of Bethlehem strand, both preformed and non-preformed.

The bethanized coating is a smooth, uniform jacket of highly-pure zinc—a coating so ductile that it will bend without cracking. The coating is available in three different weights—A, B, and C—making it possible to protect against atmospheric corrosion in any given area.

Form-Set strand, with the guardian bethanized "armor," well warrants your investigation. We know that it will not disappoint you. However, if there are still some angles you'd like to discuss, a Bethlehem man will be glad to give you further information.

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BETHLEHEM STEEL

The COOK XB Cable Terminal now features a COMPRESSION COUPLING for New Plastic Cable

To secure a tight junction point between the terminal chamber and plastic cable, the Cook XB Unprotected Cable Terminal is now supplied with a Compression Coupling as an optional feature. This coupling provides a self-locking grip and a moisture-proof, air-tight seal for plastic cable where it enters the terminal making a simple, time saving connection without damage to the cable sheath.

The Type XB Cable Terminal embodies other famous construction features such as a combined Bakelite face plate and fanning strip with firmly embedded Everdur studs and a heavy zinc hood. All of these features facilitate wiring convenience, provide compactness and high insulation characteristics which have made it popular with telephone men everywhere for 25 years.

Used Extensively for Rural Installations

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since 1903 one of the country's
first manufacturers of . . . . . .

insulated wires

drop wire
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inside
telephone wire

write for samples, prices, and Lowell's guarantee.

Founded 1903

Lowell Telephone Wire specifications will assure excellent performance and long endurance, but wire will be manufactured to your specifications wherever desired.

Insulations of rubber or plastic.

Outer Covering—neoprene, rubber or plastic jackets or weatherproof braid.

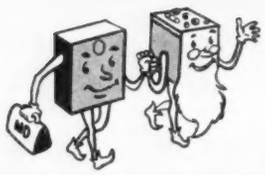
Conductors of copper, bronze or copperweld.

A complete line of Insulated Telephone Wire—outside or inside.

The Overlakes Corporation

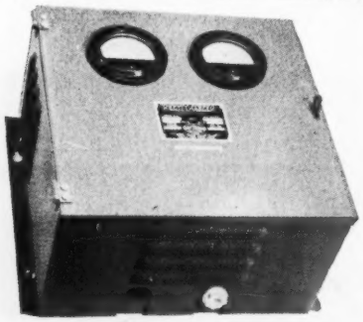
LOWELL Insulated Wire Division

Lowell, Massachusetts



PROLONG BATTERY LIFE

Prevent Over and Under Charging



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Maintains Constant
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No Moving Parts

Your telephone-equipment supplier has models to suit every need.

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People

A. E. HOLLIS, a member of the board of the Hudson (Iowa) Mutual Telephone Co. for the past 35 years, and president of the organization for the past 10 years, requested to be released from his duties at the annual meeting recently.

Mr. Hollis has seen the company grow during those 35 years from a small exchange to its present size, and asked to be relieved from the duties of the board after due consideration had been given to the needs of the company and directors. His request was granted by the board, along with that of F. W. Andorf.

George M. Strayer was elected to the presidency of the company following the resignation of Mr. Hollis. Other officers elected, who will direct the course of the company during the coming year, include: Stanley Taylor, vice-president, and P. W. Degener, secretary-treasurer.

The board members for the coming year include: Daniel Farrell, Ed Brandhorst, George M. Strayer, P. W. Degener, F. W. Gutknecht, G. S. Hogshead and Stanley Taylor.

Mrs. Dora Lee Mulligan, recently appointed traveling traffic supervisor, Illinois Telephone Co., Bloomington. Mrs. Mulligan has over 20 years of telephone traffic experience, plus some short "flings" at teaching, running a bus station and selling advertising.

Announcement was made recently that CARL E. SCHAEFFER is being transferred as manager of the Olney, Ill., office of the Illinois Commercial Telephone Co. to the company's headquarters in Springfield.

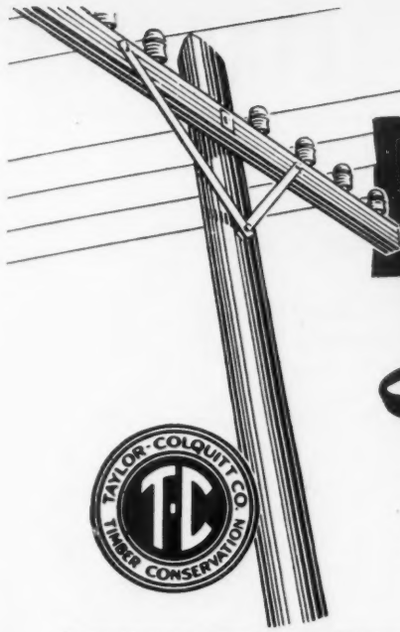
Mr. Schaeffer, a native of Olney and a veteran of World War II, has been manager of the Olney exchange of the company since March, 1947. He has been with the Illinois Commercial for a number of years. Prior to the war he worked as a lineman out of the Olney office. Following his release from the service, he was manager of the Tuscola office.

L. R. "PETE" LEACH, commercial supervisor for the Eastern District of the Illinois Commercial Telephone Co., has announced that ROBERT A. REEL has been selected as the new manager of the company's Olney, Ill., exchange group, comprised of the Olney and Noble exchanges.

Mr. Reel succeeds CARL E. SCHAEFFER, manager since March, 1947, who has been transferred to the company's general office in Springfield where he will work in the equipment department.

Mr. Reel, a native of Lawrenceville, started with Illinois Commercial as a gang clerk in the Eastern District, and was later advanced to junior commercial engineer. At the time of his transfer to Olney Mr. Reel was assistant district commercial engineer office at Mt. Carmel.

A veteran of World War II, he served in the Army Air Force as a flight officer.

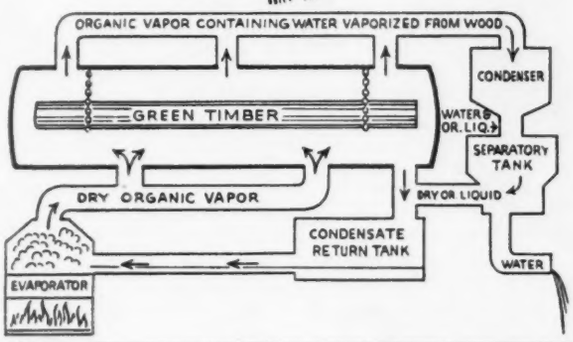


T-C VAPOR-DRIED POLES

Serve Longer!

The Taylor-Colquitt Vapor Drying technique for processing poles marks the greatest advance in pole preserving methods since the establishment of modern processing standards. Here are four important things Vapor Drying does:

1. Retains the original tensile strength of green poles, increasing the breaking resistance by 20 per cent over that of steam dried poles.
2. Permits deeper penetration and more uniform distribution of the preservative.
3. Weights of vapor dried, treated poles are approximately four pounds per cubic foot of wood less than green steam seasoned poles.
4. Eliminates bleeding by retaining a higher percentage of the preservative deeper in the sapwood of poles.



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-30° BELOW ZERO - GROUND HARD AS FLINT

*The Alaska Frost Earth Auger**

Is Made In The NORTH And Guaranteed To Drill Through ANY FROZEN Earth Anywhere

In Action Below Zero →

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YOU MAY TRY IT ON YOUR OWN MACHINE WITHOUT OBLIGATION

PRICE SHEETS AND CIRCULAR ON REQUEST

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HENNING ELECTRIC MOTOR CO.

P. O. BOX 786
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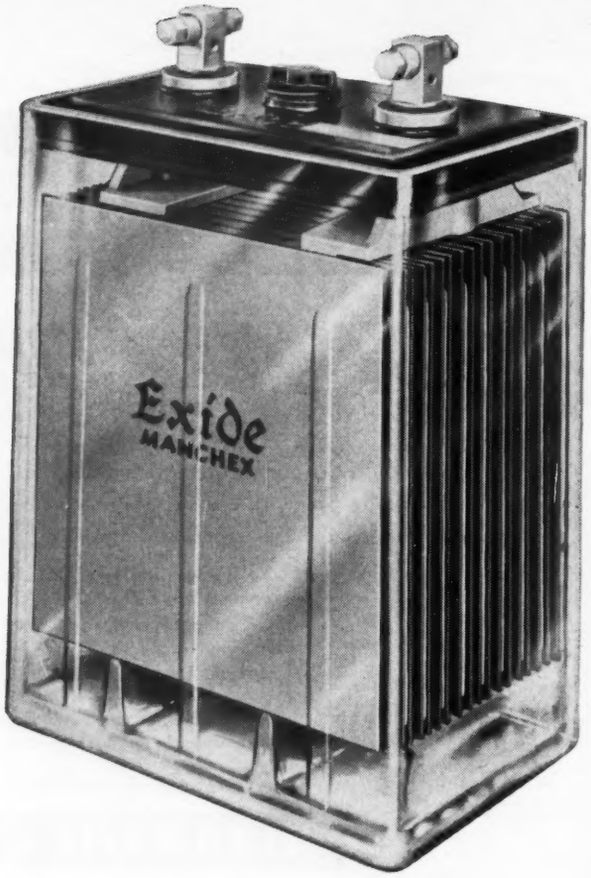
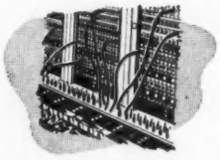


Exide-Manchex Batteries

ASSURE DEPENDABLE POWER FOR OPERATION OF TELEPHONE EQUIPMENT



Exide-Manchex Batteries are DIFFERENT in design, construction, performance . . . differences you can count on for dependable battery service day after day . . . and at a saving.

One outstanding feature is the *famous Exide manchester positive plate,* which is used *exclusively* in the Exide-Manchex Battery. Other important features include:

. . . slotted plastic separators, impervious to chemical and electrical reaction.

. . . plastic spacers that maintain perfect plate alignment.

. . . the latest development in molded glass jars.

. . . heavy terminal posts with copper inserts for extra conductivity.

• • •

Combined, these Exide-Manchex features assure you dependable power for positive operation of telephone equipment.

Use Exide-Manchex Batteries for all stationary battery requirements—common battery, emergency reserve, signaling, PBX and other applications. Wherever used, you can expect trustworthy performance, long battery life and low cost maintenance.

1888...DEPENDABLE BATTERIES FOR 62 YEARS...1950

"Exide" and "Manchex" *Reg. Trade-marks U. S. Pat. Off.*

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • *Exide Batteries of Canada, Limited, Toronto*

EDITORIAL

The Tax Collector Takes The Biggest Bite

EVERYBODY is familiar with the saying that Uncle Sam is a partner in all businesses — a roundabout way of saying that Uncle takes, in taxes, a part of all profits. But it is doubtful if everybody realizes just how big a slice of profits it is that the Federal government and other taxing bodies take, as compared with what the investors in the business receive.

Not so long ago the bondholders and stockholders received the major share of the profits of a business. But now the tax collector gets the biggest — and first — bite.

This is certainly true of the telephone business. An article published recently in the Bell Telephone Magazine, and a recent editorial in the Saturday Evening Post, both bearing on the subject of the taxation of the Bell System, give some information on the matter that is startling.

In 1939, according to these articles, the security owners — stockholders and bondholders — of the Bell System got about four times as much as the government received in taxes from the System. But in 1948 the government was receiving from the company's income about twice as much as the investors received.

In 1948 the Bell System paid, out of each dollar of its income, about 15c for Federal taxes and 5c for state and local taxes, while stockholders and bondholders received 9c. And this does not include excise taxes on local and toll telephone service — which are of course paid by the telephone users and collected and turned over to the government by the telephone company. It is calculated that these excise taxes amount to some 18.6% on the cost of the telephone service.

A startling fact is that all these taxes — Federal, state, local and excise — amounted to about $23.30 per station per year, or almost $2 per month, in the Bell System for 1948.

In addition, it should not be overlooked that the recipients of interest on bonds and dividends on stock must themselves pay Federal (and sometimes state) income taxes on such income.

But this situation does not apply to the Bell System alone. Take, for instance, the case of the Independent telephone companies.

In 1948 there were 291 Class "A" and "B" Independent companies — companies, that is, with gross operating revenues of more than $50,000 a year. Their total investment, according to their books, was some $793 million. Their total revenue for the year was slightly over $204 million.

For 1948 these companies paid their stockholders almost five million dollars in dividends — $4,947,395, to be exact. Quite a respectable amount — although not so much on an investment of almost $800 million.

But, before they could pay these dividends, these companies had to pay or provide for the payment of taxes, Federal, state and local, to the amount of almost 26 million dollars — $25,728,088, to be exact.

Out of each dollar of gross revenue, the stockholders got 2½c. But the tax collector gets almost 13c. And this, again, does not include the excise taxes.

It is no mere figure of speech to say that Uncle Sam and the other taxing bodies are partners in the telephone business. They are, from the standpoint of income, the majority partners. They are also privileged partners, so far as the stockholder is concerned, because they have to be taken care of before he can get any dividends.

The tax collector gets the biggest — and first — bite!

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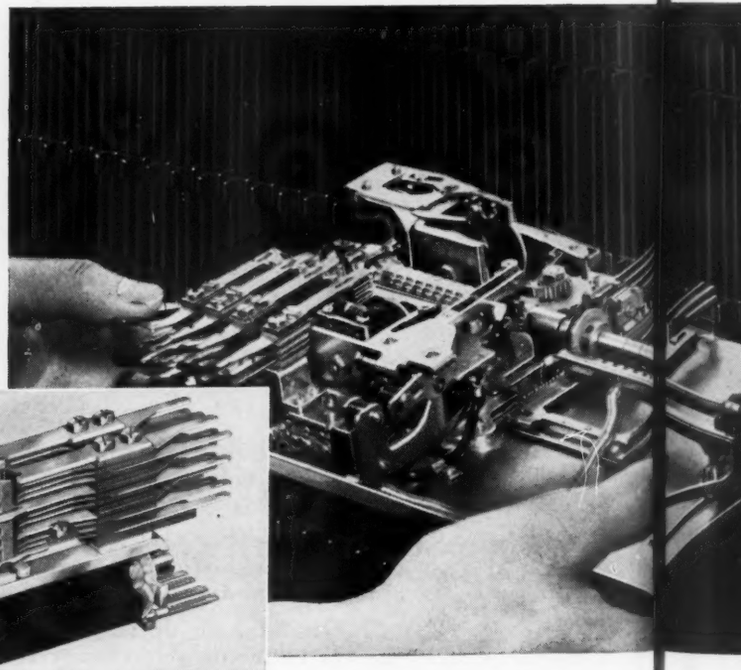
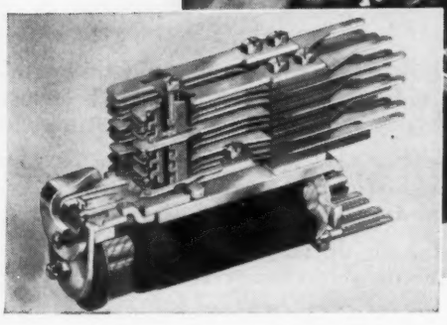
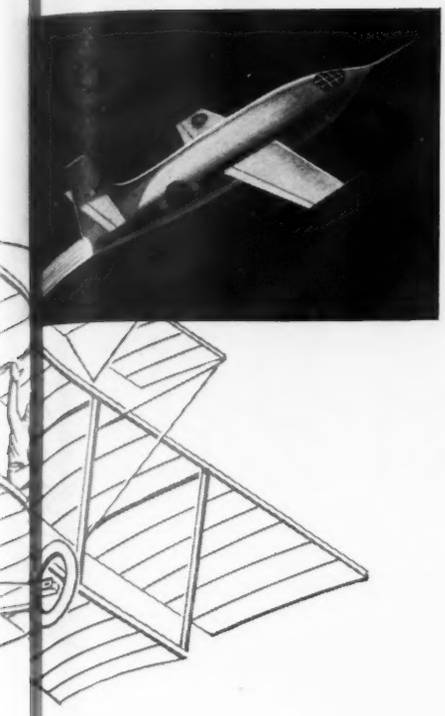




STROMBERG-CARLSON

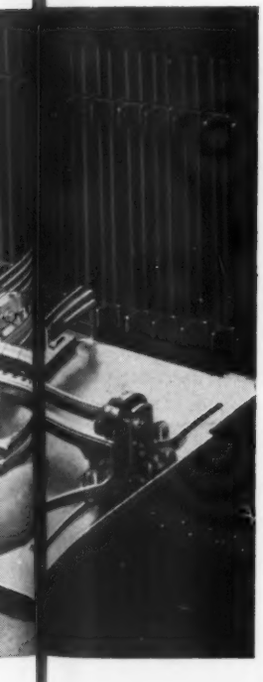
Factory, General Offices: Rochest N. Y. Br



Dial Systems are a lot like Airplanes...

THERE'S A BETTER WAY OF MAKING BOTH, TODAY!

Just 41 years ago this year, Louis Bleriot's flight across the English Channel set a speed and distance record of 31 miles in 37 minutes. Today, a jet plane streaks cross-country at close to the speed of sound, and hardly rates newspaper notice for its commonplace achievement. But if *you* were in the market for a new airplane, you'd not ask "Who set the first record?" but *"Who makes the best today?"*



The same history of development and the same approach to buying exist in the field of dial telephone systems. Stromberg-Carlson's XY System contrasts with older types as dramatically as a turbo-jet next to a 1909 biplane. XY is *new*—it's *modern**—and it's *accepted*. More than 50 installations are in service in the United States today —and the companies who were first to select it are among the same companies who are placing new orders today!

If dial service is in your future, check with the leader —Stromberg-Carlson.

**Modern* switching technique requires universal switches, with twin-bladed wipers, twin contact relays, a Fourth Wire and bare wire bank multiple—and "XY" has them all!

STROMBERG-CARLSON XY...The Newest Dial System in America... AND THE BEST!

N. Y. Branch Offices: Atlanta 3, Chicago 6, Kansas City 8, San Francisco 3. In Canada: Stromberg-Carlson Co. Ltd., Toronto

THIS-

Every "borrowed" call represents lost income.

OR THIS?

Batteries of paystations like this are producing substantial revenues for many telephone companies.

Autelco-Gray PAYSTATIONS...*SAVE LOST INCOME*

One of the "60" series types of Autelco-Gray Paystations.

When you install paystations for convenient use by the public, you convert "borrowed calls" into immediate operating-company income. Telephone users invariably prefer the privacy of paystations and are glad to pay for their convenience.

Provide enough paystations in drugstores, hotels, bus stations and other public places, to save this otherwise lost income. It will add substantially to your revenue.

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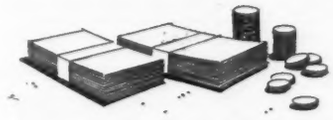
WILL RESULT IN

Needed Additional Revenue



More Job Opportunities

A more satisfied customer...

TELEPHONE men and women always have tackled any problem of service with lots of vigor and success. When war came there was a big *swingover* in the telephone job.

Hundreds of telephone men and women went into the armed forces and served their country directly. Those left and those who came into the business during the war years served their country by furnishing excellent service where and when it was needed, to the armed forces, to the government and to war-geared industry.

After the war there was another *swingover* to clearing orders backed up during the war years and to satisfying an unprecedented demand for new service. The *Held Application* became the "*order of the day.*" Engineers and plant, commercial and traffic men and women all concentrated on clearing held orders and keeping up with demand.

By Richard Allen
Contributing Editor,
Telephone Engineer Publications

Now that the job is pretty well completed the time for another *swingover* is here; the time all the men and women of the industry have been working toward—the time when telephone workers can say to friends and to customers contacted on the job—"*We are ready to serve you with a more complete telephone service.*"

Advertisements appearing in newspapers in many cities now feature extensions, and introduce to the public the "*complete telephone service*" theme.

A recent issue of the OHIO BELL stated "In the future, advertisements on *complete service* will appear in newspapers throughout the company's territory. In addition to newspaper advertisements, window displays, lobby and truck posters and other advertising media will be used to carry the *complete service* theme to the public."

The program, will not offer a new product. It will merely "take a look" at stock shelves and tell the public the numerous items of telephone equipment the company has to offer to furnish better and more satisfactory service.

For the past eight years the telephone cupboard has been bare, as far as offering added telephone convenience and enjoyment was concerned. The tremendous pent-up demand for service following the war made it necessary for telephone companies to furnish the minimum service to the maximum number of persons. Then the "complete telephone service" offering might have been a main station only, even though

the customer had need for extension or other auxiliary equipment. During this period it was more important to furnish *some* kind of telephone service to the large number of persons waiting for it than to provide a better service to a smaller group.

Telephone companies explained their inability to meet all requests for service through publicity, advertising and personal contacts. But most businesses were in the same predicament. Shortages of all kinds were prevalent and customers learned to wait in line for many things in addition to telephone service.

The picture is much different now. Shortages in most fields have vanished. The customer is in a position to demand and get what he wants. He expects service and is getting it on an ever-increasing scale.

Fortunately, most companies are now able to offer more and better telephone service in most locations. They have many items of equipment on the shelves, ready for delivery, that go to make a "*complete telephone service.*" To mention only a few, there are extension telephones, additional directory listings, hard-of-hearing sets, inside and outside bells and visual signals.

True, some items of service are not immediately available in all localities. But the things the industry has to offer far outweigh those that can't be had.

The "complete telephone service" advertising is aimed at the customer who wants more and better service. The companies want him to know more services are now available.

WAR
POSTWAR
MEN WORKING
Complete Telephone Service
NOW
...YOU CAN GET
EXTENSION TELEPHONES
Extension telephones are now available.
They're yours for the ordering... those wonderfully convenient telephones right at hand when and where you need them.
Extensions mean more pleasure for everyone. A phone in the kitchen is a boon to Mother. It's handy for ordering groceries and dandy for chatting with friends while keeping an eye on the roast.
And how much the man of the house enjoys a telephone in den or study. It means privacy for business calls and relaxation in evening hours. Bedroom extensions, wonderful for early and late calls, are also a protection in emergencies. A phone in the basement saves countless steps for Mom on laundry day and for the family during ping-pong sessions.
Call the Business Office to place your order. Your service representative will be happy to help. She'll also explain some of the other auxiliary equipment now available to make your service more complete . . . such as, extension bells to make sure you get calls when out of earshot of the telephone; visual "ringing" signals for noisy locations; additional directory listings for other members of your household, and cut-off keys to silence bells in sick rooms.
THE OHIO BELL TELEPHONE COMPANY

Every Employe Can Be A Service Engineer

COMPLETE telephone service and the work of the commercial service engineers for all practical purposes are one and the same thing. What a company attempts to accomplish in its complete service program is to provide the customer with the best telephone facilities available to give the customer highest grade service possible.

Commercial service engineers have always had this objective as their goal. It is through their continuing efforts that business customers have the finest equipment and service obtainable to fit their needs in a world where the telephone is the most important lifeline of commerce.

There are many things the service engineer does as part of his daily routine that could also be useful to all other telephone employees in their program of providing complete service to customers. An outline of the way in which the service engineer works shows many basic procedures that can be used by all employees in dealing with the public.

Since the war the work of the service engineer has been on about an 85 per cent demand basis where the customer has contacted the company with problems of needs for additional equipment, changes in equipment, moves and similar requirements. On receiving such requests for aid the service engineer visits the customer and goes through a fact finding procedure with him to determine his exact needs and what will best fit his requirements. After studying the problem the service engineer then makes his recommendations and sees that the needed equipment and changes are taken care of.

The remainder of the service engineer's time with customers is made on a scheduled basis. He visits plants where additions are being anticipated or made and plans the additional telephone equipment that will be necessary, orders the equipment and follows the installation through to the end to see that it is giving satisfactory service.

Another phase of his work is visiting every large PBX user at least twice a year to review the user's requirements at that time, and if necessary to again suggest necessary additional equipment and see that it is properly installed. Once every four years he makes a comprehensive review of his large PBX users' telephone equipment, usage and further needs. This review includes toll usage, equipment moves and talking with the chief operator concerning the use of present equipment. In his review he also talks with all department heads about their problems of telephone usage, and finally talks with all other station users about their telephone problems. Finally he discusses with the executive department

the future development of their business and what future telephone requirements will be likely.

After compiling all this data he makes up a tentative set of recommendations which he reviews with his supervisor. These recommendations are then presented to the company in the form of the problems presented, solutions and cost involved. His next step, of course, is seeing that his recommendations are carried through on time to the customer's satisfaction. The small PBX user is similarly programmed once every five years.

There is also a special group of service engineers whose job it is to deal with the utilities such as railroads, gas, light, pipeline and airline companies. These industries are users of special equipment and have problems quite different from other businesses. For example, railroads have special circuits for signaling and dispatching which are their own circuits but terminate in telephone company switchboards. Airlines have direct circuits from airports to ticket offices, and pipelines have communication facilities paralleling their lines and terminating in telephone company equipment.

The procedure for servicing these companies is far too lengthy to outline here, but needless to say the service engineer's problem is just the same—to see that the customer gets the necessary equipment and service where and when he wants it.

By surveying the customer's needs in much the same way as the service engineers a telephone employee can perform a service to the customer by telling him about additional equipment and service available that will furnish him better, more convenient and economical service.

There is a wide variety of uses for special services such as auxiliary signals and devices.

The subscriber's station may be provided with loud ringing gongs, or control equipment for horns, single stroke or vibrating gongs of any size, visual lamp signals, and the like. The control equipment may be designed to operate only during the ringing intervals or to operate continuously from the moment it is tripped until the subscriber answers the telephone. The choice of the proper type of signal should depend on how much its tone contrasts with the noise to be overcome rather than on how much louder it is.

Loud Ringing Extension Gongs

THE LOUD ringing extension gong is designed for use where an ordinary extension ringer would have inadequate volume for certain applications such as in garages, warehouses, lumber yards, shops and railroads. The popular type of loud ringing gong is intended for indoor use and for outdoor locations where the gong is reasonably protected from the weather. The waterproof type of loud ringing gong is designed for locations of severe exposure. Both utilize ringers of the polarized type for operation on exchange ringing current and have six or eight inch gongs.

When more powerful or more effective signals are needed than can be produced by loud ringing gongs, it is necessary to provide control equipment to trip these signals since the exchange ringing current alone is not sufficiently strong to operate them. This control equipment consists of an a-c relay that is energized by ringing current. Closing of the relay contacts starts the signal. The signal itself may be a Klaxon horn, siren, single stroke gong, chime, or visual signal lamp. The source of current for the signal may be 110 volts from commercial a-c supply, 24 volts from the exchange battery, or 8 to 24 volts from a step-down transformer. The relay should be of a type that will operate on alternating current as well as on direct current and that is sufficiently rugged to stand the applied voltage and the current drain of the signal. Telephone type relays are necessarily limited to 25 watts at 50 volts a-c, though relays are available that can handle up to 400 watts at 150 volts a-c.

Visual Lamp Signals

IN CERTAIN locations it may be desirable to utilize lamp signals in place of audible signals. Such locations may be the consulting rooms of doctors' offices, libraries, quiet sections in hospitals, and places where election reports and the like are being received over several telephones for tabulating purposes.—

(To be concluded in the April issue of FORTNIGHTLY TELEPHONE ENGINEER.)

Conquering New Frontiers

AMERICA today, still has frontiers, but they are scientific frontiers rather than physical frontiers that challenge us now. However, to finance and cope with the problems presented by these scientific frontiers now awaiting development, capital is needed, large amounts of capital which, under existing tax policies, are not now forthcoming. There are only two sources from which private industry may obtain equity capital so necessary to finance new enterprises. One source is the capital market, drawing upon the accrued savings of millions of people. However this market has largely dried up as a source of permanent equity capital and unquestionably current taxing policies have had much to do with this drying up. The second source is profits obtained by industry itself. Here again, the taxing policies of the government have a very important bearing. And to top it all there is no tax reduction in sight. Instead the threat has been raised of further restriction upon the investment funds of business—either through an excess profits tax or by higher corporate income tax rates. There would be no quicker way of halting the nation's search for new products and cost-reducing methods than to remove all incentive by the levy of excess profits taxes. This nation will benefit in the future—as it has in the past—not by hand-outs but by private individual initiative in a continuing system of free enterprise.—*Tax Outlook.

THE MARKETS for NEW CAPITAL

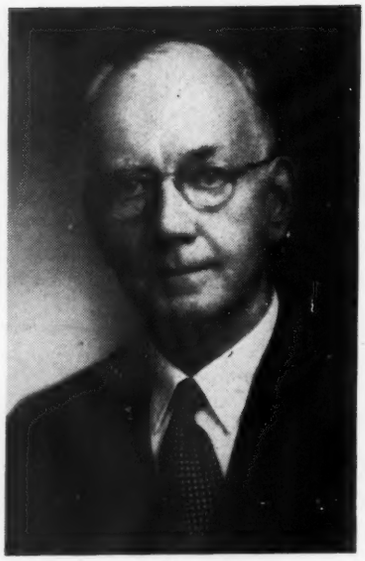
By

ALBERT W. KIMBER

GETTING enough money, cash, is the greatest of all problems for most telephone companies, and the problem does not seem to become less puzzling as time goes on. It may be that money to pay for new plant, or for extensions and improvements to plant in service, is not so hard to come by; it is needed in comparatively large amounts and may be readily available through sale of securities, or through short term loans from banks or others, to be repaid later from sale of securities; indeed that kind of money is widely offered now on terms apparently the easiest in history. But such money as that is capital, and when it goes into plant new problems are created.

When the capital so obtained is through the issue of bonds or other debt instruments, the money has to be repaid. Lately the terms exacted for the repayment of long term loans appear to be increasingly burdensome. Instances have been the requirement of complete repayment within twenty-five years by periodical installments beginning in the first year and amounting to 4% per annum of the original loan. And the requirement of repayment within thirty-five years in even amounts per annum, roughly 3% of the original loan, seems to threaten to become almost the vogue.

If a company had nothing but new plant, the provision of cash for such debt repayment might not be difficult for some years. Cash released by depreciation charges would approximately equal the debt repayment installments, and would be available for them inasmuch as replacement of new plant would not require much cash for seven to ten years, although then in gradually increasing amounts per annum. But where the cost of the new plant amounts to no more than say 50% of the total cost of plant in service, as recorded in the books, the release of depreciation cash will not be adequate for both debt repayment and the cost of replacements.



A. W. KIMBER

Depreciation cash was never intended to be applied to debt repayment, it was to pay for plant replacements. Pre-war the depreciation charges against original cost did provide sufficient cash for this purpose, in fact prior to five years ago replacements might absorb say two-thirds of the depreciation cash each year, as a rough average, leaving something over for minor plant additions. But the cost of replacements has advanced to levels so much higher that depreciation cash no longer covers them; additional cash must be provided. If total original cost on the books represent plant which is 60% of pre-war installation and 40% new plant, the total depreciation cash will just about meet the cost of normal replacements in the pre-war plant alone. So if the depreciation cash is used for plant replacements there can be none left for debt repayment or any other purpose. And the squeeze will grow tighter year after year.

After the new plant goes into service, the profits from its operation, if any, will help to cover the deficiency. But such profits may be small at first, unless and until rates to subscribers are increased, because of the smaller amount of service equipment which the invested dollar now buys. And in any case such profits will decrease from time to time because the new plant will be depreciated on the books at a rate not less than 3% per annum of its original cost, and in most of our states that depreciated plant cost is the foundation of the rate base upon which the company is permitted to earn a return. And unless the company then is permitted to earn a net operating income which includes an amount large enough to cover the combined debt and replacement requirements (less depreciation cash) the deficiency will have to be made good from the cash which otherwise would be available for dividends on the stock.

Here is a sample work-out. An interest rate of 2% per annum with a 3% sinking fund, means at first a per annum charge of 5% of the face amount of the loan and also on the cost of the new plant. At the end of ten years the loan would be reduced to 70% of its original amount, and on $100,000 this would mean $70,000 of debt remaining and $70,000 of depreciated plant. The interest cost on the reduced loan the next year would then be only $1,400, but the repayment installment would continue at $3,000, a total of $4,400, or 6.3% of the depreciated plant. The increase in this percentage rate continues. Thus by the end of twenty years the debt would be reduced to $40,000 and interest and sinking fund the next year would be $3,800 or 9.5% on the depreciated book cost of the new plant, except as its plant account might be increased by that time in the amount of the net cost of replacements over withdrawals.

Telephone utility management is of course familiar with the new higher costs of materials and labor for maintenance and other operating expenses,

as well as for taxes, and many applications to regulatory authority for approval of higher service rates have received favorable action, when predicated upon these factors alone. But where the provision of cash for periodical debt payment has become an important factor, most regulatory commissions have thus far proved unreceptive to the idea of approving rates high enough to include such cash requirements in the computation of the rate of return.

The viewpoint of the commissions is that debt repayment belongs to the capital account, that it is not a component of the cost of money which most of them consider the principal element in the rate of return. As regards debt they allow merely the interest costs plus any associated charges such as amortization of debt discount and expense, and the like. According to the textbooks, of course, this attitude is academically correct. Another consideration with them is that if service rates should be increased so that revenue from them would provide the debt repayment cash, the consumers or subscribers would in effect be paying off the company's debt, resulting in a windfall to the stockholders which they have no right to enjoy at the subscriber's expense. The commissions advance the long familiar argument that the subscribers should not be forced to pay twice for invested capital, once through operating charges (depreciation) and again through a higher rate of return. But these arguments give no comfort to the man who has to find the cash. It is no consolation to him that every year his debt is reduced, if it will take thirty-five years to extinguish it and his annual repayment continues at its fixed original amount throughout that period.

We are faced here with a practical problem, the solution of which may become increasingly urgent for smaller telephone utilities that assume heavy charges on debt contracted to pay for new plant. The cash for debt repayment must come from somewhere, and if the debt must be fully liquidated by periodical installments the cash must be provided by the subscribers, or the stockholders. And as matters now stand it will come out of the stockholders.

Table One—Telephone Company New Capital Issues

November 1949-February 1950

Bonds and Debentures	Amount	Price	Yield
November 1949			
Associated Telephone, Ltd. (Cal.) 1st 2.875% 1979	$9,000,000	100.75	2.85%
Upstate Telephone Corp. (N. Y.) 1st 3.25% 1979	1,200,000*	101.50	3.18%
Commonwealth Telephone (Wis.) 1st 3.25% 1979	2,000,000*	102.00	3.15%
December 1949			
Southwestern Associated Telephone 1st 3.25% 1980	1,600,000*	101.50	3.18%
Southwestern States Telephone (Tex.) 1st 3.25% 1975	750,000	100.00	3.25%
Kittanning Telephone (Pa.) 20-year 3.50% notes 1969	1,100,000*	100.00	3.50%
February 1950			
American Telephone & Telegraph 21-year 2.75% debs. 1971	200,000,000	100.797	2.70%
Western Light & Telephone 1st 3% D 1980	1,500,000*	101.99	2.90%
Deb. 3½% 1969	1,250,000*	100.72	3.45%

Preferred Stocks	No. of Shares	Price	Yield
November 1949			
Citizens Telephone (Indiana) 4.50% Pfd $100 par	2,500	100.00	4.50%
Northern Ohio Telephone 4.50% Pfd $100 par	13,575	100.00	4.50%
Harrisonburg Telephone (Va.) 5% conv. Pfd $100 par	1,600	100.00	5.00%
Home Telephone & Telegraph (Ft. Wayne) 5% Pfd $50 par	60,000	50.00	5.00%
December 1949			
United Telephone of Pennsylvania 4.50% Pfd $100 par	10,133	100.00	4.50%
January 1950			
Michigan Associated Telephone 5.40% Pfd $50 par	50,000	50.00	5.40%

Common Stocks	No. of Shares	Price	Yield
November 1949			
Florida Telephone Common $10 par (0.70)	28,500†	10.00	7.00%
Harrisonburg Telephone (Va.) Com. $10 par (1)	5,750	16.50	6.06%
Norfolk & Carolina Tel. & Tel. Com. $100 par (7)	2,000†	100.00	7.00%
New Brunswick Telephone, Ltd. (Can.) Com. $10 par (0.50)	112,918	10.00	5.00%
December 1949			
Westerly Automatic Telephone (R.I.) Common $25 par (2)	6,000†	25.00	8.00%
Lorain Telephone (Ohio) Common no par (1.20)	3,489†	20.00	6.00%
La Crosse Telephone (Wis.) Common $10 par (0.80)	25,000	10.00	8.00%
January 1950			
American Telephone & Telegraph Common $100 par (9)	2,800,000†	See Note (a)	

Notes: *Private Sale. †offer to stockholders.
(a) Offer to employees at price $20 per share less than market price when payment is completed, but not more than 150 nor less than 100. Payable $5 per month.

Bonds & Debentures

MUCH INTEREST was expressed in financial circles over the unusual terms of a large transaction outside the utility field in early February. A group of 42 insurance companies and 11 other investing institutions entered into a contract with the New Jersey Turnpike Authority to supply $220 million to finance the construction of a 115-mile toll highway in that state. The Authority is to issue 35-year 3.25% bonds, which the group agrees to purchase at 100 in various amounts as the cash is needed from time to time until November 1951; the Authority is obligated further to pay annually to the lenders a fee at the rate of one-half of one per cent of the undrawn part of the loan. The Authority estimates that it will save about $12,000,000 in interest cost by this borrow-as-you-build plan.

This financing plan includes no new idea, it is only the size of the transaction and the number of participating lenders which are out of the ordinary. For instance, the $600,000 loan for twenty years of the Los Gatos Telephone Company, California, noted in our issue of last July, was of this character, the loan to be drawn down as needed within a year, and interest paid only as accrued from draw-down date. Bank credits without number are opened on this

(*Please turn to page* 64)

Telephone Installer Calls The Shot On Type of Instrument Customer Needs

WHAT TYPE of telephone should I put in for this customer? This question, faced hundreds of times each working day by installers, has important bearing on the satisfaction customers get from their telephone service.

Just as the same furniture wouldn't do in every room, so no one type of telephone fits perfectly at all locations. For this reason, telephone companies maintain stocks of several different kinds of telephone sets. And because the installer is usually the only telephone employee who actually visits the customer's home or office, he's in a key spot to decide which type of telephone will best meet the customer's needs.

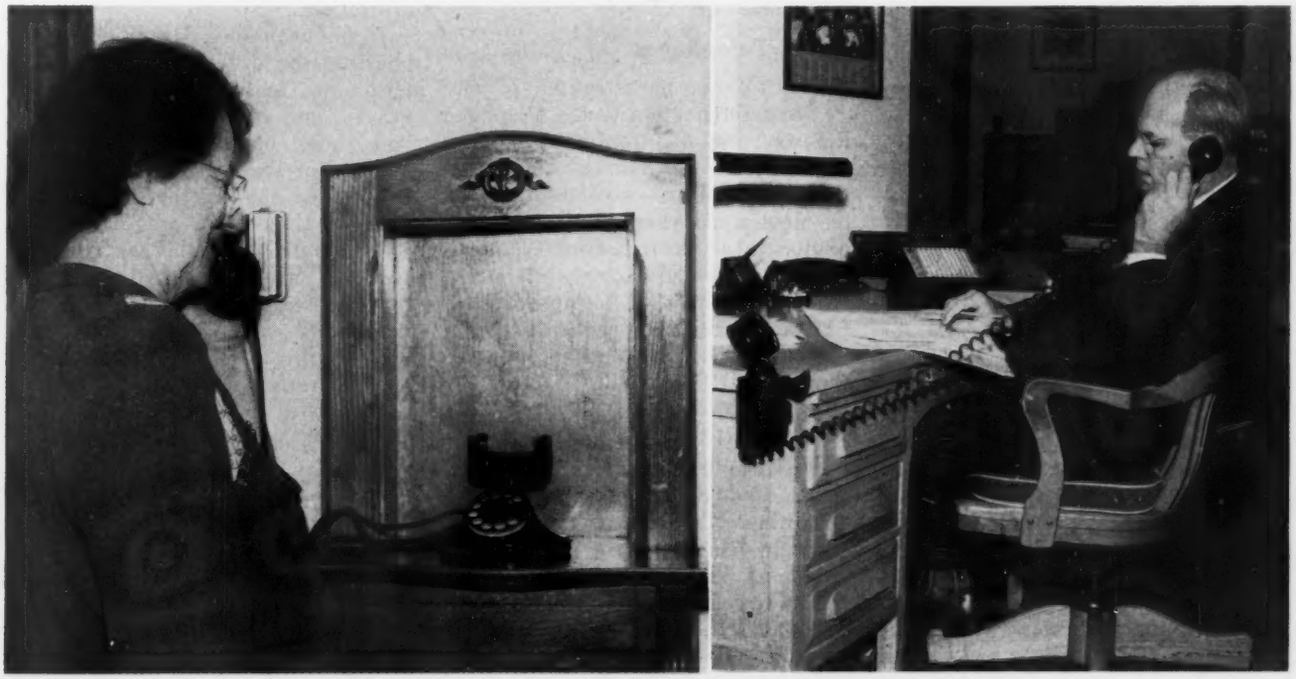
Location is the biggest factor in selecting the right instrument. So, after the installer has introduced himself and explained that he's come to install the customer's telephone, his first question: "*Where do you want your telephone?*" That's the $64 question. Once he gets the answer the installer can survey the spot selected and come up with a recommendation. Then he'll inform the customer what type of instrument is best.

Examples of locations calling for a particular type of telephone are illustrated in the accompanying pictures from *Southwestern Bell.*

When customer requests substitution of handset type instrument for desk stand, use of an oval base set frequently solves a knotty problem. Existing bell box can be used, thus avoiding exposure of space behind bell box, which probably was not painted or papered last time room was redecorated.

If bell box can be located where it will not be conspicuous or in the way, hang-up type set may prove more convenient than combined set. Such is the case in this kitchen.

In recreation room, (left) portable combined set is ideal because bell is with talking part of set. If customer had to depend on bell in another room, he might not hear it ring. This set is handy wherever jacks are provided . . . In kitchens, hallways and other confined spaces, (center) there may not be room for table or shelf on which to place telephone. In these cases, combined wall set is often ideal . . . Some customers, (right) go to considerable expense in providing conduit and telephone outlets to avoid installation of telephone wiring on woodwork. Use of combined set will avoid any marring of woodwork and walls . . . These locations call for special-type telephones.



Many homes have telephone niches built in the wall (left) but sometimes the shelf in the niche is too narrow to accommodate the combined telephone set. This situation calls for an oval base telephone. The bell box can usually be installed nearby at an inconspicuous location. Other likely spots for oval base instruments are shelves, small night tables and other furniture with flat space . . . Combined sets are usually installed on desk and tables, (right) but in many cases hang-up type telephone will serve customer a lot better. This photograph, taken in an office, shows how hang-up set leaves entire desk top clear for working space. Bell box, installed in the knee well of the desk, is out of sight.

WASHINGTON BUREAU

California Supreme Court reverses order of California Public Utilities Commission which limited amount Pacific Bell can pay AT&T under the license contract. . . . REA seeks $2.1 million in administrative funds for telephone program.

THE POSTWAR series of telephone rate cases has produced some landmark court decisions, but what appears to be the most significant in taking up the question of where commission regulation ends and management responsibility begins has just been issued by the California Supreme Court.

In its decision, the court by a 5-2 vote reversed an order of the California Public Utilities Commission which limited the amount the Pacific Telephone & Telegraph Co. can pay the American Telephone & Telegraph Co. under the license contract. The usual Bell System license contract arrangement—through which the Bell System companies pay for a multitude of services by the A. T. & T., including scientific research, development, and technical, operating, commercial, engineering, and public relations assistance—is for 1% of the associated company's gross revenues. The California agency, however, ordered Pacific Tel. & Tel. to pay the "reasonable cost" to A. T. & T. or the "reasonable value" to itself of the services, and in no case to spend more than $2.25 million a year for them. Last year, 1% of the Pacific company's gross revenues would have been about $2.5 million.

The court, in annulling the commission order, held that "The determination of what is reasonable in conducting the business of the utility is the primary responsibility of management." It declared that "If the commission is empowered to prescribe the terms of contracts and the practices of utilities and thus substitute its judgment as to what is reasonable for that of management, it is empowered to undertake the management of all utilities subject to its jurisdiction. It has been repeatedly held, however, that the commission does not have such power."

California's highest tribunal pointed out that "The policy of the commission in the past not to prescribe the terms of contracts between affiliated corporations is consistent with the provisions of the Public Utilities Act (of California). There is nothing in the act to suggest that the contracts of public utilities affecting rates and services are subject to greater regulation when they are between affiliated corporations than when they are not."

In its decision, the court majority said the commission "recognizes that (A. T. & T.) provides Pacific with valuable services for which Pacific should pay. It would disregard only the terms of the contract by which it is determined how much Pacific should pay for the services it receives, and thus substitute its judgment for that of the management as to the reasonable amount and the method of its computation. Thus the commission is seeking to disregard the separate corporate entities"—of A. T. & T. and Pacific Tel. & Tel.—"not to exercise more effectively its existing jurisdiction, but to extend its jurisdiction."

Rural Telephones

IT MAY not be a source of any great satisfaction to the telephone industry, but the transcript of hearings before the House Appropriations Agriculture subcommittee on the next fiscal year's budget request of the Rural Electrification Administration provided some interesting reading in which REA Administrator Claude R. Wickard echoed some of the industry's arguments in opposing the original Poage Bill.

For those who recall the severe criticism of the telephone industry because, under the statistics used by REA and the House Agriculture Committee, the nation's farmers apparently had no more telephones a couple of years ago than they did in the mid-twenties, it was a little ironic to note Mr. Wickard's emphasis in his testimony on the economic hazards of providing rural telephone service and the heavy losses of subscribers during the depression.

After pointing out that many telephone companies lost half or more of their rural subscribers in the early thirties, Mr. Wickard said this "may account in part why today we do not have any more, or perhaps not quite so many, farms with telephones in this country as we had back in the 1920's." (Numerically, of course, we also have considerably fewer farms than we did in the twenties.)

Mr. Wickard made the point in explaining why the REA is having telephone borrowers put up some equity when they get REA telephone loans, unlike its practice in the rural electrification field in usually making "100%" loans. In its announcements of the first two rural telephone loans, REA likewise emphasized the economic stability of the areas served by the successful loan applicants.

For the next fiscal year, REA is asking $2.1 million in administrative funds for the telephone program, as well as the $50 million loan authorization previously reported. The breakdown of the funds, for an average of 356 employees, shows where the emphasis in REA operations will lie—$1,070,000 for loan analysis and system development; $525,000 for construction and technical operating assistance; $124,000 for business management aid; $298,500 for auditing, loan accounting, and collecting; $82,500 for technical standardization.

In his testimony, Mr. Wickard emphasized the differences between the telephone and electrification programs, and stated that REA must "go slow" on the telephone loans because of their greater complexity. He pointed out that the loan requests received thus far average $170,000, much smaller than the electrification requests' average, but he declared that the engineering and service considerations of the telephone field will require a higher proportion of administrative funds than has been expended in the power program.

Mr. Wickard, incidentally, had some nice things to say about the telephone industry, both Independent and Bell System, in his statement accompanying approval of the first REA telephone loan, to the Florala, Ala., Telephone Co.

He declared, "Many leaders of the telephone industry have been in consultation with us. Their advice and cooperative attitude have been very helpful. This applies to both the Bell System and the organized Independents. We have also had conferences

REPORTS

by Roland Davies and Fred Henck

"Once government becomes a mass employer, the working man will take whatever the politicians want to give him."—"THE LABOR UNION," *AFL weekly.*

with many representatives of farmer organizations and of state regulatory commissions. Uniformly, they have been sympathetic with our problems and helpful in exploring situations.

"At the same time, manufacturers and suppliers of telephone equipment, contractors, and engineers have also volunteered help. Our own technicians are at work on standard construction specifications which will be promulgated very soon, and they are interested in the possible development of new equipment or lower costs for present equipment."

Excise Taxes

INSOFAR as the House of Representatives is concerned, the telephone industry probably will learn its intended fate regarding the wartime excises taxes early in April, when the House Ways and Means Committee is expected to report out its general excise revision and tax loophole plugging measure.

Prospects for reduction by the House of the telephone excises beyond the proposals of the Treasury Department—a cut to 15% on toll calls, with no change in the 15% levy on local service—are not too bright, and it is likely that the Democratic leadership in the House can muster enough strength to push through a bill fairly close to the Treasury proposals, to spare President Truman the dilemma of whether to veto an excise cut bill he does not find acceptable.

But the Senate, where excise reduction sentiment has been apparently stronger and certainly louder, is apt to make slashes in any bill which comes to it from the House. The final version of the bill may well be written on the Senate floor, as it is probable that it would take more than party loyalty to make the House participants in a joint House-Senate conference fight vigorously against further excise reductions.

Labor

ALTHOUGH every observer is anxiously scanning the horizon, putting his ear to the ground, and using every other means short of consulting a clairvoyant, there has been no indication of the course the labor dispute between the Communications Workers of America (CIO) and most Bell System companies will take during and immediately following the 60-day truce now being observed. The truce, at the request of President Truman, would expire April 25.

Acceptance of the truce took the Truman administration "off the hook" politically, since Congressional and public tempers, already at near records because of the coal situation, probably would have melted down the new ceilings in the Senate and House chambers if the telephone workers had gone out, too. With settlement of the coal dispute, the telephone situation becomes not so critical a political matter.

Meanwhile, a significant if not controlling indication has come out of New Jersey, where under the state utility anti-strike law a fact-finding panel had been set up. The fact-finders report came to naught, since it was unacceptable to the union, and a compulsory arbitration panel since has been named, but its composition and conclusions were worthy of attention.

The public member of the fact-finding panel, Emanuel Stein, was the one who made the decision, since the other members were a representative each from the company and union. It was Mr. Stein who, two years ago, set a nationwide pattern with a recommendation for a $4 average weekly increase for New Jersey telephone workers. And it was the same Mr. Stein who in the current dispute rejected entirely the union's wage boost demand, as well as virtually all other money demands, save for the reclassification of three cities.—THE END.

Mother of Publishers Dies in Texas

Mrs. Nannie A. Smith, 69, mother of Ray W. and Roy F. Smith, publishers of the Telephone Engineer publications, was killed in a traffic accident at Fort Worth, Texas, the evening of February 25. Mrs. Smith had been a continuous resident of Fort Worth for the past 40 years. Surviving are the sons and three granddaughters.

New Owners For Staples, Minn. Exchange

Mrs. Mollie Waite has announced the sale of the Staples (Minn.) Telephone Exchange to Delmar and Loren Schmelzer, Anoka, Minn.

Small Company Talk

By Bill Corman

DEBIT AND CREDIT answers given by Mr. Corman in reply to a reader's question cover accounting for new installations and station removals.

HI, NEIGHBOR! Below is a letter received from Mrs. G. N. Sellers, manager of the Peoples Telephone Co., Coolidge, Texas. The lady asks some very good questions, and I believe the answer to those questions might well be of benefit to others. The Letter:

"Just finished reading your article in February issue of TELEPHONE ENGINEER & MANAGEMENT. *I found it stimulating and instructive. Now if you will just take your work order on through the Cash Journal recordings I will be in the KNOW—and how. Or failing that, if you can tell me where I can secure this needed information I will be very grateful. I have looked in vain for a book covering the subject but have failed to find one. I even took a correspondence course in accounting—and got merchandising.*

"The information I need is this: Which accounts to debit and which to credit on new installations, installations using previously installed but disconnected drop and inside wire, removals, inside moves and moving from one location to another?

"I do the book work for a small company—360 stations—and my Station Wiring account has been giving me a headache. We set up our books three years ago without any previous knowledge of accounting. We are now carrying our Depreciation Reserve for Station Wiring as a Debit account—and it keeps building up.

"We started using Work Orders about a year ago. We find them very helpful.

"You will no doubt be surprised to find a woman interested in TELEPHONE ENGINEER & MANAGEMENT. *I find it interesting and instructive in many ways. Thank you for any service you may be able to give us. Am enclosing stamped envelope for reply . . ."*

Before going into the answers on the debits and credits required by installs, disconnects, removals, changes, etc., I would like to comment a little on the letter itself. First of all, of course, I appreciate very much the first and second sentences of the letter, but the third sentence really gets down to the meat of the coconut and *that* I like even more.

Your experience, Mrs. Sellers, with the correspondence course should not be too disappointing. I went to school for several years, took all the Accounting Courses two very good Colleges had to offer, and the first time I sat down to a desk in a telephone office, I knew as little about *telephone* accounting as anyone could possibly know. I still do not know of any book, or correspondence course, or school course, that deals with Telephone Accounting. You just have to take what's available, apply what you have learned about basic accounting debit and credit from merchandising accounting, and take it from there yourself.

As for what is available in the form of "book learning", I recommend the FCC Uniform System of Accounts (for the class of company you are interested in). FCC has three systems, "A", "B" and "C"—"C" instructions being for companies with $50,000.00 gross revenue per year or less, which includes most small companies. This little pamphlet can be secured from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Ask for "FCC Rules and Regulations—Uniform System of Accounts for Class "C" Telephone Companies". Write first and ask for the price, then send them that much money together with your order for the pamphlet, and it should reach you in a short time.

This system is not only recognized by the FCC, (Federal Communications Commission), but by practically all State Commissions as well. Before adopting its provisions, however, you should contact your State Commission to make sure that the FCC System is fully acceptable, and if not, what additional or changed requirements the State Commission has. In states where there are no Commissions, the FCC System will undoubtedly be satisfactory.

This System of Accounts is a good and complete summary of the *what to do* in telephone accounting. It, however, tends to be confusing to the average beginner because it does not go at all into the *how to do* part of the picture. Under a given set of circumstances, it tells what to debit and what to credit, but it does not say how the entry is to be entered, posted or summarized, what journal should be used, when during the month the entry should be made, etc. In all fairness, it should be added

that such a job is impossible—the book required would be a set of volumes as thick as the encyclopedia. There are just too many different ways of doing it to enable describing each in detail.

There is another publication, however, in which the emphasis *is* on the *how*—this is the *Kellogg Switchboard & Supply Company's* new system for Small Companies, a copy of which is free to you for the asking. The explanatory matter included with that system is very good, and as clear and concise as I believe is possible. Even if you have a system already in operation, you may wish to switch—or at least adapt parts of the Kellogg System to your present system.

A combined study of the FCC system and the Kellogg System would be very beneficial to any small company, whether or not you already have a real telephone system of accounts set up.

One more comment on your letter, Mrs. Sellers: No, I am not surprised to find a lady Reader of TELEPHONE ENGINEER & MANAGEMENT, though I am gratified at receiving a letter from one. The girls in my own office read it whenever they get a spare few minutes, and I am the first to admit that they do all the hard work around here—not me. Furthermore, the bookkeepers in most telephone offices that I know are also of the fair sex, so it would be my guess that, in your reading, you have much feminine company.

Debit & Credit Answers

NOW TO GET down to some debit and credit answers for your questions. This is rather involved, and if there is anything that is not clear, please write me, and I will try to expand on the explanation. Let's take it one step at a time—first, *the accounting on new installations.*

In Class "C" accounting, the account "Station Wiring" includes the value of all materials used from the open wire route or cable terminal up to the telephone. This covers such items as drop wire, pole and house hooks, drop wire clamps, bridging connectors, if used), drive rings, "L" brackets and porcelain knobs, type "C" porcelain knobs, the protector, ground rod, wire and clamp, bridle or inside wire, insulated staples, etc.

The account also includes the value or cost of the labor necessary to put all of those items into use, and the installation of the telephone instrument. The value of all this material and labor, plus allocable overhead, if you have any, should go into, or be added to, or be debited to the Station Wiring account—which is the same thing said three different ways. As a general indication of how much all this amounts to, in dollars and cents, our value of "Station Wiring" *per station,* is about $11 or $12. A rough comparison will tell you whether you are getting about the right amount into your account or not.

Material Values

NOW, IF ALL of those values are debited to Station Wiring, what is the offsetting or corresponding credit? This depends on how you keep your books. Let's take the *material values* first, and trace it through to see what happens.

You order some material, say drop wire, from a manufacturer; the wire arrives; you pay for it—what's the entry? It is a debit to something and a credit to cash. The debit has two basic possibilities: (1) you can charge (debit) the value of the wire directly to the Station Wiring account IF you are going to use all of that wire for New Installations. Or, you can debit part of the value to the plant account (Station Wiring) and part to an expense account IF part is to be used for new installations, and part for repairs of old existing drops; or (2) you can debit all of the value of the wire to "Materials and Supplies", and distribute it later as it is used. That is, later on, when the wire is actually used, you can debit either plant or expense, as the case turns out to be, and credit Materials and Supplies. Under this method, you debit Materials and Supplies with all material received, and then credit Materials and Supplies as the material is used. Thus, the corresponding credit to the debits to Station Wiring will be either a credit to cash or a credit to Materials and Supplies, for the material values that go into (are debited to) the Station Wiring account.

(*Please turn to page* 68)

Prudent Judgment

by Toral Duckett
Western Div'n Mgr.
Central Tel. Co., Sioux Falls, S. D.

AS TELEPHONE people, we all know that the only thing which we have to sell is service and I think we all agree that it is our wish and aim that service be good and as a result of the good service, we should have satisfied subscribers. As we consider the expenditures and the improvements required in the various communities, we must not lose sight that we not only want to furnish the best possible service to our subscribers at the present time, but we must continue that service to them in the future.

We can only hope that the present use of telephones by the people in the communities which we serve will continue on its present basis and thus we should be able to keep financially sound if rates have been provided that will permit us a satisfactory return. However, we must proceed and think of the future with at least a part of our thinking on the basis that at some future date there will be some curtailment in the use of telephones or in the toll service and then we must consider what might be the effect on the company. This should be a consideration in our future planning as undoubtedly with good, modern, dependable telephone service our subscribers are going to be more satisfied and we will find that the telephone will be one of the necessities they have which they will be most reluctant to part with.

It is indeed important that our service improvement program be continued in order that the people in the communities which we serve will be provided with the best possible service, but it is also important that prudent judgment be used in furnishing the service in order that it might be continued in the future.

It seems to me that it behooves each company to see that the service which they provide now is good and dependable as upon this might depend the continuity of high station development and good earnings in any community which is now being served. We must not lose sight of the need for good rates and good operation as the various phases of these high investments are considered.

Nor should we lose sight of an objective of providing for our subscribers the best possible service at the least cost to the subscriber consistent with fair treatment of our employees and financial security for the future.—(*Excerpt from address presented at the* 1950 *Minnesota Telephone Association convention.*)

●your dollars buy more s

LEICH'S 900 MAGNETO TELEPHONE

LEICH MANUFACTURERS OF TELEPHONES, SWITCHBOARDS AND RELATED APPARATUS SINCE 1907

service

dependable operation, excellent transmission and reception

This is a real he-man magneto telephone. It's the kind of magneto instrument you can install and expect to serve faithfully for many long years to come. Tens of thousands of these Leich 900 telephones are now in service, and all reports indicate that they are the most dependable, trouble-free magneto telephones Leich has ever built. Transmission and reception are crisp, clear, life-like, and are equally good over a wide range of line conditions. The powerful Alnico generator produces plenty of power for even the longest, heavily loaded lines.

the same telephone can be used for wall or desk installations

You can carry this one type of telephone in stock and meet every service requirement. If the customer wants a desk telephone, you set it down; if a wall installation is preferred, you simply mount this Leich magneto telephone on the wall. You don't add or buy or change a single thing. You can stock fewer telephones because every Leich telephone is right for every service need. Truly, this is a *sensible* telephone, one that will give more, better service for your telephone dollar.

remove the generator and it's a common battery telephone

If your exchange is converted to common battery or dial service you can easily convert this Leich magneto telephone. This can be done in about five minutes time with a screwdriver the only tool you will need. To convert to common battery, remove the generator and change a few wires which converts the circuit to common battery operation. Add a dial blank or a dial and you have the equivalent of a regular Leich No. 600 common battery manual or dial telephone. Write today for complete information on this sensible Leich magneto telephone. Leich Sales Corporation, 427 West Randolph Street, Chicago 6, Illinois.

REA Approves First Rural Telephone Loan

THE RURAL Electrification Administration on February 24 allocated funds for its first rural telephone loan. The loan allocation of $243,000 was made to the Florala (Ala.) Telephone Co. for improvement and expansion of rural telephone service in a three-county area in southern Alabama and northern Florida. The company is at present individually owned, but will be incorporated under broadened ownership.

The company will use the loan funds, plus the proceeds from the sale of stock to local residents, for the following purposes:

To rebuild 59 miles of its present 84-mile telephone system in Covington County, Ala. and Okaloosa and Walton Counties, Fla.;

To replace its present magneto switchboard and equipment at Florala with modern common battery equipment;

To build a new automatic exchange at Laurel Hill, Florida, as a satellite of the Florala exchange;

To build 130 miles of new rural telephone lines;

To place telephone wires on 80 miles of electric power lines operated by REA-financed electric cooperatives in the area; and

To refinance an existing loan of $10,000.

The loan allocation is the first step in providing adequate telephone service for every rural resident of the company's service area, in accordance with the area coverage principle of the REA telephone loan program.

Construction under the present loan will enable the company to provide better service to its present 447 subscribers, and add 1,053 new rural subscribers. It will provide the backbone facilities for an area-wide telephone system, so that only service drops and short spurs will be needed to complete area coverage. The company has agreed, after completion of this immediate program, to continue construction until service is available to all of the remaining estimated 960 rural families in the service area. It will obtain the funds for this continued expansion either out of revenue or by applying for additional REA loans. With the area coverage objective in view, the company will retain a substantial amount of the surplus earnings in the system.

REA representatives stated the full system contemplated will make modern telephone service available to 2,460 rural subscribers. State Commission approval will be asked for a schedule of uniform rates throughout the service area, with varying classes of service. The present long-distance circuits of the company will be expanded and full world-wide service will be available through interconnections.

LLOYD G. VAUGHAN, owner-manager of the Florala (Ala.) Telephone Co.

The Florala Telephone Co. has been in existence since 1901. Its present facilities are loaded to capacity. While a portion of the present system will have to be replaced, the remaining equipment and the headquarters building will have substantial value as integrated parts of the new system. The Government will receive a first mortgage on all property —existing and new—as security for the loan.

The company is at present owned by Lloyd G. Vaughan, but the ownership is being expanded by the sale of $30,000 in stock to local residents. Of this amount $26,000 has already been subscribed.

Anticipated revenues from the proposed telephone system are said to give assurance of continuity of adequate service and funds sufficient to meet all the obligations of the company, including repayment of the Government loan with interest.

In its press release announcing the loan, REA stated, the economic outlook in the Florala area is favorable to continued and expanded use of the telephone. The rural area surrounding the town is about half in farm land and half in timber. Farming is diversified, including production of cotton, pecans, peanuts and livestock. Production of tung nuts has increased to a large extent in the last few years and is providing a stable source of farm income. A continuing yield lumbering program has been adopted. Farm ownership in the area is relatively high, and farm electrification is estimated at 90%.

Front view of Florala, Ala., central office building.

Side view of Florala, Ala., central office building.

Other factors listed by REA as favorable to successful operation of the improved telephone system include good subscriber density, relative freedom of the area from sleet and storm damage, and the fact that the system will be large enough to afford good management and maintenance.

In making use of electric facilities in parts of its service area, the telephone company will cooperate with three of REA's electrification borrowers—the Wiregrass Electric Cooperative, Hartford, Ala.; the Covington Electric Cooperative, Andalusia, Ala., and the Choctawhatchee Electric Cooperative, DeFuniak Springs, Fla. The telephone company will pay the electric cooperatives an annual rental for each pole used, and each will maintain its own wires.

The loan will be for the maximum permissible amortization period of 35 years and will bear interest at 2%. Counsel and assistance will be made available to the borrower by REA as needed on technical and operating problems. Funds will be made available and construction will proceed after execution of the necessary documents, including the loan agreement and mortgage, and after necessary State Commission approvals have been obtained.

This is the first allocation of funds under the Hill-Poage rural telephone act which became effective October 28, 1949, as an amendment to the Rural Electrification Act of 1936. Under its provisions, REA may make long-term loans for extension or improvement of rural telephone service, with preference to existing suppliers of rural telephone service and to cooperatives.

On approving this first allocation of telephone loan funds, REA Administrator Claude R. Wickard said:

"This marks the first application of the REA pattern outside the field of rural electric service. . . .

"Congress has authorized this agency to apply the same basic formula to remedy the rural telephone situation that has been effective in rural electrification. We know, from our preliminary studies, that the development of this program will involve many new and different problems. We believe, however, that if we can have the cooperation of all enterprises and agencies concerned in providing rural telephone service, substantial improvement can be made.

"Since the passage of the new legislation, we have recruited the nucleus of our additional staff, assigning these telephone specialists to positions within our present administrative framework.

"Many leaders of the telephone industry have been in consultation with us. Their advice and cooperative attitude have been very helpful. This applies to both the Bell System and the organized Independents. We have also had conference with many representatives of farmer organizations and of State regulatory commissions.

"Under the telephone act, our primary responsibility is to make it possible for rural people to have adequate telephone service through self-liquidating loans. The program can also have substantial benefits for the telephone industry, as the loan to the Florala Telephone Company indicates. Moreover, the program will provide enormous business opportunities for a great many other diversified industries and professions."

Coming Conventions

Illinois Telephone Association, Abraham Lincoln Hotel, Springfield, March 22 and 23.

Nebraska Telephone Association, Paxton Hotel, Omaha, Mar. 28 and 29.

Iowa Independent Telephone Association, Fort Des Moines Hotel, Des Moines, Apr. 4 and 5.

National Executives' Conference (United States Independent Telephone Association), Greenbrier Hotel, White Sulphur Springs, W. Va., April 11 and 12.

Ohio Independent Telephone Association, Deshler-Wallick Hotel, Columbus, Apr. 24, 25, and 26.

Indiana Telephone Association, Claypool Hotel, Indianapolis, May 3 and 4.

Pennsylvania Independent Telephone Association, Roosevelt Hotel, Pittsburgh, May 8 and 9.

Kansas Telephone Association, Jayhawk Hotel, Topeka, May 16 and 17.

Wisconsin State Telephone Association, Park Hotel, Madison, May 16 and 17.

New York State Telephone Association, Seneca Hotel, Rochester, May 24 and 25.

California Independent Telephone Association, Biltmore Hotel, Los Angeles, June 1 and 2.

Oregon & Washington Independent Telephone Associations, (Joint Meeting), Davenport Hotel, Spokane, Wash., June 9 and 10.

Michigan Independent Telephone Association, Olds Hotel, Lansing, Sept. 14 and 15.

Rocky Mountain Telephone Association, Newhouse Hotel, Salt Lake City, Utah, Sept. 21 and 22.

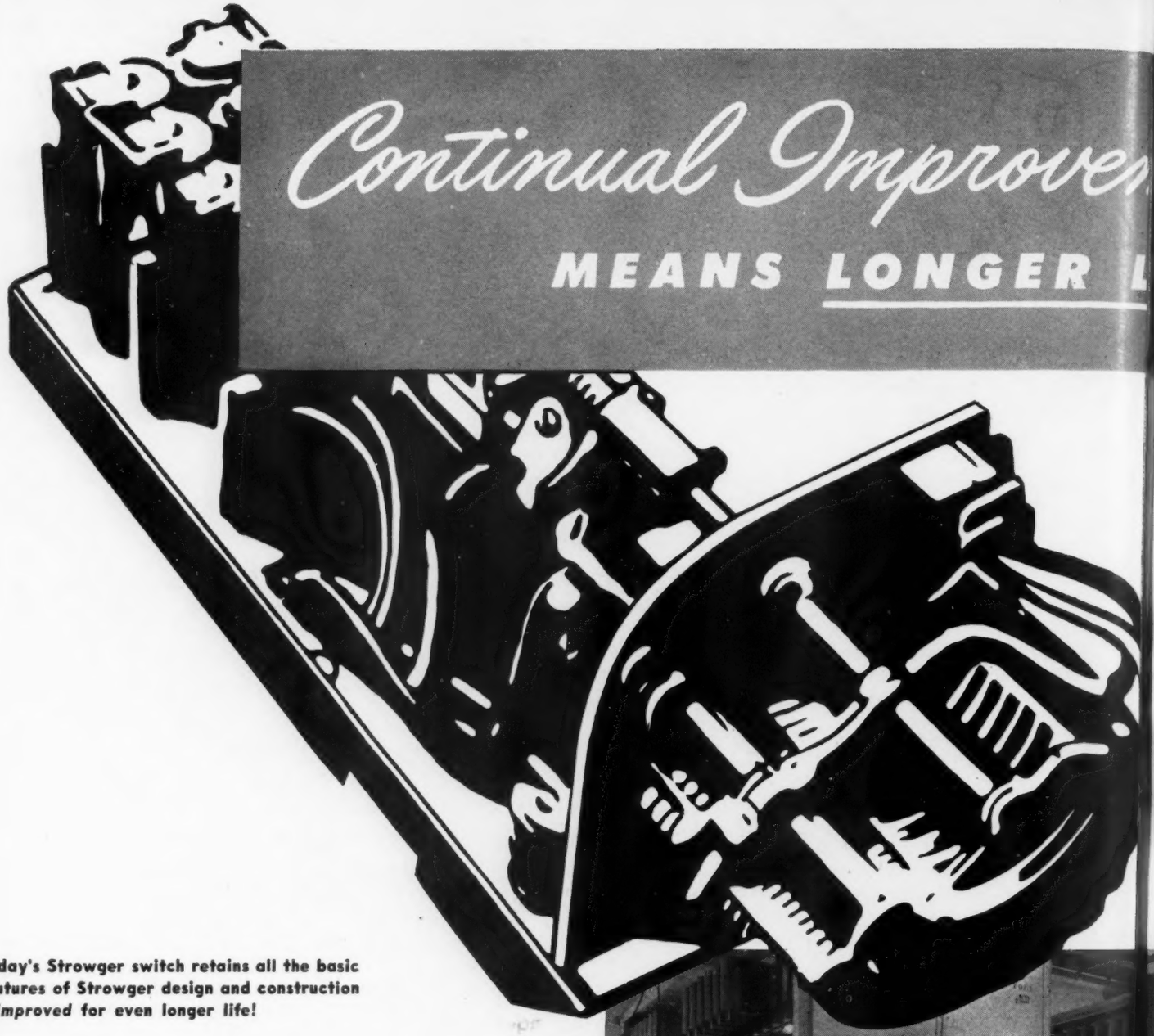
United States Independent Telephone Association, Hotel Stevens, Chicago, Oct. 9, 10, and 11.

Georgia Telephone Association, Henry Grady Hotel, Atlanta, Nov. 6 and 7.

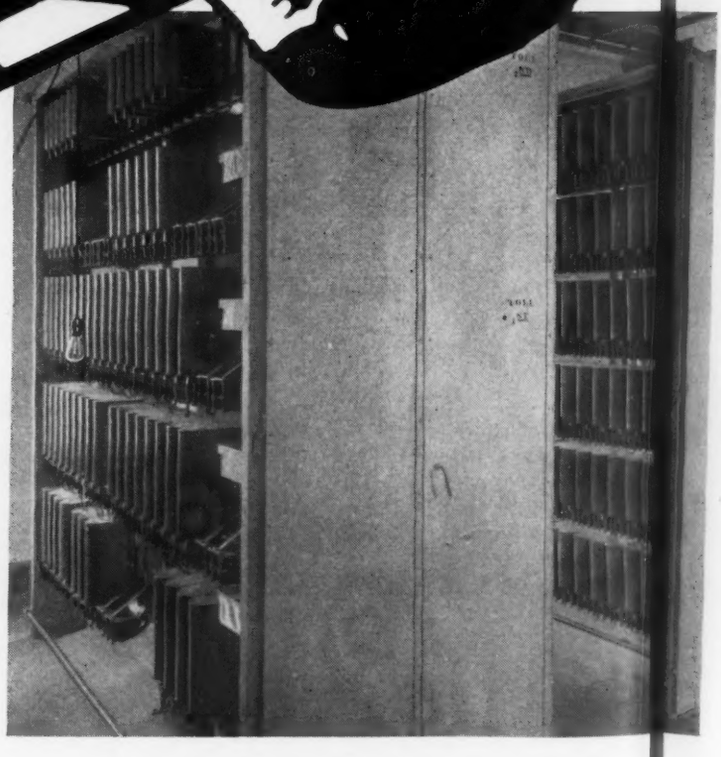
Missouri Telephone Association, Hotel Muehleback, Kansas City, Nov. 20 and 21.

Continual Improvement

MEANS LONGER LIFE



Today's Strowger switch retains all the basic features of Strowger design and construction —*improved* for even longer life!



This equipment, cut into service on February 22, 1919, is still operating today, after more than thirty years of consistently dependable service. During those years, several additions have been made, and the equipment has been re-arranged to meet changing traffic. Here is another demonstration of Strowger's Automatic's interchangeability and flexibility!

...ent OF THE STROWGER SWITCH
...LFE FOR STROWGER AUTOMATIC!

There's one case study in the Automatic Electric laboratory that is never marked "closed." Engineers are always probing every feature of Strowger switch construction and operation to further increase switch life. Exhaustive analyses of life tests, new materials and new production machinery cover every little detail.

It is significant that only the details receive this attention — for nothing has ever successfully challenged the basic design of the Strowger switch! Yet, even a change in one detail adds to switch life. Changes in materials, fabricating methods and design details exemplify this continuing search for improvement. And though each change improves switch life or performance, switches always remain interchangeable; existing equipment never becomes obsolete.

Strowger Automatic switches installed thirty years ago are still giving dependable service. Continual improvement promises even longer life for the equipment now being made. That is an assurance you receive only with Strowger Automatic!

AUTOMATIC ELECTRIC

Originators and Developers of the Strowger Step-by-Step "Director" for Register-Sender-Translator Operation . . . Machine Switching Automatic Dial Systems
Makers of Telephone, Signaling and Communication Apparatus . . Electrical Engineers, Designers and Consultants

Distributors in U. S. and Possessions: Automatic Electric Sales Corporation
Export Distributors: International Automatic Electric Corporation
1033 West Van Buren Street, Chicago 7, U. S. A.

Fig. 1—Model 25 caterpillar crane with 60 foot boom is placed in position to lift pole from ground.

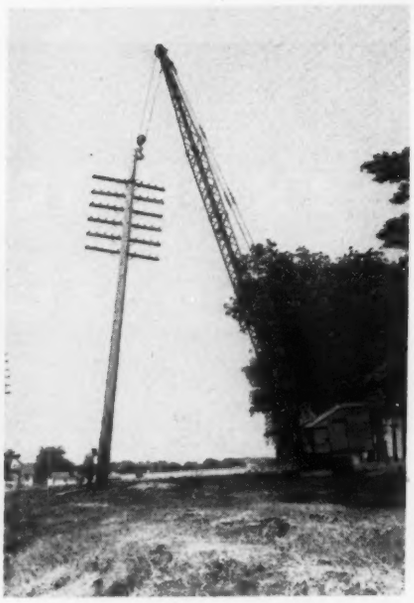


Fig. 2—Crane has raised pole and telephone crewmen are moving it to new location, 35 to 50 feet from old location.

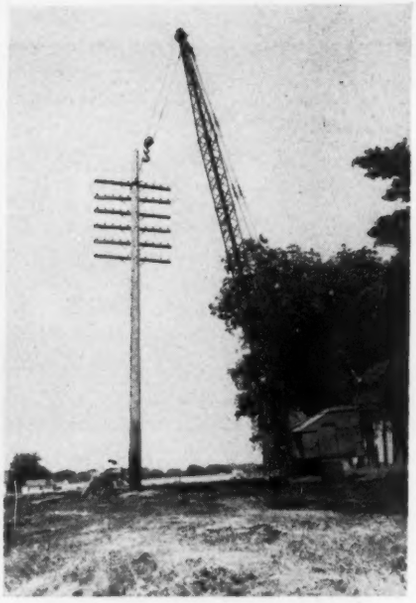


Fig. 3—Workers and crane lower pole into ground at new location. Use of crane speeded up relocating of poles.

"How To Do It" Suggestions

Rubber Insulators Used In Heavy Fog Areas

RUBBER insulators originally developed for use in situations of excessive malicious destruction of glass insulators have been found to be of value where lines are subject to heavy fogs. Such insulators are reported to have a high leakage resistance even after a long period of service.

In cases where regular open-wire lines were rendered inoperative by heavy fog as in sea coast regions, lines on rubber insulators were able to give reasonably satisfactory service. (Carrier circuits on rubber insulators have about the same a-c wet weather losses at slightly over 30 kc. as like circuits on glass insulators.) It has also been found that the resiliency of rubber insulators reduce "burning" of line wires and breakage of tie wires to a considerable extent.

Use of Crane Simplies Pole Relocation Job

By John G. Reynolds

Managing Editor,
Telephone Engineer Publications

LIKE THE MAN on the flying trapeze, huge telephone poles were swung through the air with the greatest of ease recently near Des Moines. And construction men of the Northwestern Bell Telephone Co. had a hand in it. You may ask, "How come?"

The answer is that because of some improvements being made on highway number 6 east of Des Moines, it became necessary that the company relocate about 20 miles of poles. Thirteen miles of the job involved the Chicago-Omaha toll line consisting of large-size poles carrying four to six crossarms and 40 to 56 wires.

Moving of this kind ordinarily is done through use of pole derricks mounted on big construction trucks. However, on this particular job a new method was employed. A model 25 caterpillar crane with a 60-foot boom was used to perform the moving job. Through use of the huge crane (*Figures* 1, 2, 3), the work was done more safely, much of the hard work eliminated, there was probability of less wire and circuit troubles, and the work was completed at about 40 per cent less cost than under the former method when derricks were used.

One of the company's mechanical posthole diggers was used to dig the holes for the poles. The big crane, used in moving them, was furnished by the private contractor employed to move the poles.

In *Figures* 1, 2 *and* 3 we see the simple step-by-step procedure of how the big crane tackled the job. In *Fig.* 1 the crane is in position to lift the pole out of the ground. In *Fig.* 2 the pole has been raised and telephone crewmen are moving it to its new location. And in *Fig.* 3, the men and the crane are seen lowering the pole into the ground at the new location. The poles were moved 35 to 50 feet and required four to six moves per pole.

Telephone Men Nip Trouble In The Bud

THE TIME to go after trouble on telephone lines is before it happens. That's what the Lincoln (Neb.) Telephone & Telegraph Co. is doing in a new plan designed to improve telephone service.

The plan is simple and practical. Telephone maintenance men assigned to areas are on constant lookout for

conditions which may cause trouble. For example, in Fairmont, Neb., the trouble sleuth is Armin Ackermann whose job it is to patrol the lines and take care of such possible trouble makers as slack wires, loose connections and broken insulators or cross arms. He also inspects drop wires running from lines to subscriber's homes and replaces them if they are worn.

As he goes along the lines, he also makes notes of jobs too heavy for one man to handle such as the placing or relocation of poles and tree trimming to clear lines. These notes are turned over to a crew of three men who take care of the heavier maintenance work. This crew also speeds up the installation of rural telephones.

Observers report the plan is working out fine and is resulting in better service and fewer cases of trouble. It also is expected to be a help this winter by making less repair work necessary during bad weather.

New "Cold Cure" May Cause Accident Rise

WIDESPREAD use of the new antihistamine cold cure tablets has caused traffic authorities to express concern that these preparations may step up the traffic accident rate. The National Safety Council reports the tablets, sold under various trade names, "suppress the release of a powerful body chemical called histamine." The Council on Pharmacy and Chemistry of the American Medical Association said that about one-third of those who take them "Become drowsy or even asleep while at work, or, in occasional cases, when driving cars or operating machinery."

A worker taking any of the new "anti-histamine cold cures," is warned to avoid driving a car and to advise the foreman so that he may plan to temporarily keep him off hazardous work where alertness and co-ordination are essential.

Wall Handsets vs. Desk Handsets

AMONG modern telephones available to subscribers, the most popular choice is the self-contained desk handset. Yet the majority of subscribers do not realize the advantages that a self-contained wall type handset actually has over the desk instrument.

A wall instrument does not require the use of a stand, whereas the desk instrument must be kept on a table or a desk. Many concede that the stand, where provided only for the telephone, is a nuisance. The elimination of this article of furniture saves floor space and makes house cleaning that much easier. Futhermore, the provision of a stand for the telephone creates a definite hazard for small children or pets in the household. A desk instrument is easily knocked off or pulled off with chance of injury to the child or pet and the possibility of property damage, particularly if the stand topples over with the telephone.

The wall instrument needs only one cord, that for the handpiece, instead of two required in the case of desk handset, and there is thus one less cord to become tangled and later wear out. It is possible in most instances to conceal the wiring to the wall telephone inside the wall. In addition no connecting block need be present to mar the appearance of the wall.

A wall handset presents a more compact appearance when mounted on the wall and is actually less conspicuous than a desk instrument. It can also be installed in small hallways and nooks, enabling greater privacy for conversations. With the instrument maintained in a fixed position, dialing requires less conscious effort than in the case of the desk handset.

Many subscribers think that a wall handset necessarily has to be mounted high upon the wall, like the old time wall set, requiring the user to stand up while talking on the instrument. This is a misconception. Actually the instrument can be placed as low as the subscriber desires so that he can sit comfortably while using the telephone. In fact, the wall handset is ideal for installation in a location by an easy chair in the living room where it is readily accessible to the subscriber who spends the evening reading in the chair.

From the telephone company's standpoint, it is more economical to place a wall handset rather than a desk handset in all cases where this is practicable. Maintenance costs are lower because there is less chance of breakage of the instrument and the set requires only one cord.

At least one company is pushing the sales of wall handsets to new subscribers who want to order the desk type. The prospective subscriber is shown the two types of handsets and allowed to examine and compare them while the commercial employee points out the advantages of the wall instrument. The customer usually appreciates the opportunity to make the comparison, even though he finally decides to have the desk handset installed anyway.

Quick Job

A GUY may be quite conscious of big hazards and properly careful to avoid or eliminate them, but he may not be so conscious of the exposure to danger in some of the quick, simple jobs he does.

He jumps on a crate instead of getting a ladder. . . . He grabs a wrench that isn't the right size for the job and maybe he uses a piece of pipe as an extension on the handle. . . . He scrapes metal shavings off a machine with his bare hand instead of a brush. . . . He barges around a corner carrying a piece of wood or metal haphazardly. . . . He jumps from a platform, or runs down stairs.

Accidents have a way of doing a quick job on a guy who does one of those quick, little jobs as if it doesn't matter.—The Safe Worker.

Pulling In Wires At Power Line Crossing

WHEN TELEPHONE wires are being placed under power wires crossing overhead, great care is necessary as there is always the hazard that the wires being pulled in may catch on some obstruction and caused to flip up against the power wires with resultant serious shock and burns to employees handling the wires. Whenever possible, the pulling-in process should start from a power line crossing on each side and the wires afterwards spliced together at the telephone pole nearest the crossing.

If the wires must be pulled under the power wires, tie the telephone wires down with handlines at the crossing pole so that they cannot possibly flip up. Whenever possible, mount the wire reels on a trailer and pay the wires out on the right-of-way by hauling the trailer away from the crossing pole where the wires are fastened. This greatly reduces the chance of the wires jerking or flipping.

For maximum safety in extremely hazardous locations, the men handling the wires and tending the reels should wear electrically tested overshoes and rubber gloves.

"We believe in this company!"

That, in effect, is what many thousands of people are saying about the American Telephone and Telegraph Company—and backing up their belief by buying A. T. & T. stock. In the eight months between June, 1949, and February, 1950, the number of stockholders increased more than 100,000 to a total of over 900,000.

The advertisement on the opposite page marks this milestone in the ownership of the Bell Telephone business. Appearing in national magazines during March, it points out how closely the widespread confidence of investors is linked with good telephone service.

An advertisement of the

BELL TELEPHONE SYSTEM

On January 1, 1945, it was 668,000

In June, 1949, it was 800,000

Now it's well over

900,000

A. T. & T. Stockholders

No other stock is so widely held by so many people. About one family in every 50 in this country now owns American Telephone and Telegraph Company stock

Just last month the number of stockholders of the American Telephone and Telegraph Company reached a record high of 900,000 and it's still growing.

This is an increase of over 100,000 in eight months. The big gain is due not only to completion of the first offering of stock to employees under the Employee Stock Plan but to continued public buying.

The people who own the Bell Telephone business come from all walks of life in every section of the country. Most of them are small stockholders. 280,000 own five shares or less. More than half are women.

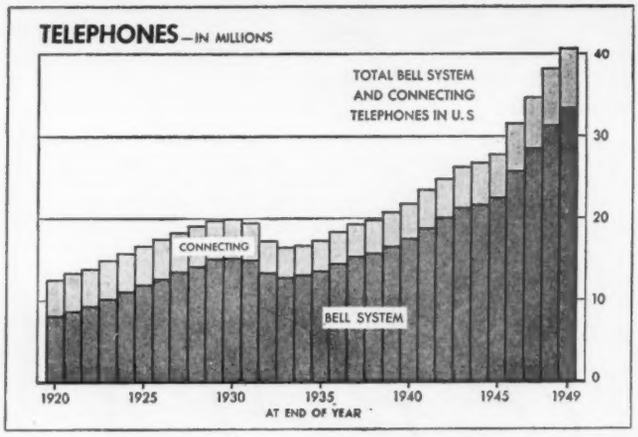
Over 150,000 telephone employees are now stockholders. In the next year or so many thousands more will complete payments on stock under the Employee Stock Plan.

A significant fact is that more than 350,000 A. T. & T. stockholders have been stockholders for ten years or longer. Their A. T. & T. dividend has come along regularly, in good times and bad.

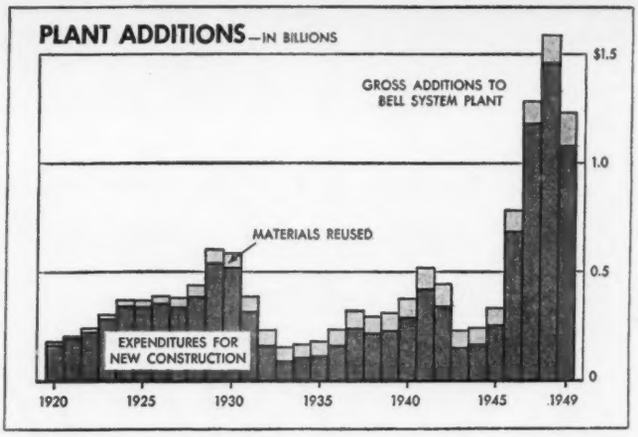
They bought the stock "for keeps" because of their long-term confidence in the business and their belief that regulatory bodies will provide adequate rates for service so that they may receive a fair and stable return on their investment.

It's the widespread confidence of investors that helps make possible the good telephone service you get today.

BELL TELEPHONE SYSTEM



40,600,000 telephones were in service in the United States at the end of 1949. Of these, 33,388,000 were Bell telephones —twice as many as ten years ago and three times as many as 25 years ago.



More than $1,000,000,000 for construction has been spent by the Bell System in each of the last three years to meet the postwar demand for telephone service and to restore and improve on prewar quality of service.

Bell System Reports Record Expansion

BELL SYSTEM adds two million telephones in 1949; spends over a billion dollars to improve and extend plant facilities; total expenditures for new construction since the war amounts to $4,525,000,000.

THE BELL SYSTEM added two million more telephones in 1949 and the overall quality of telephone service was raised to new high levels. To accomplish this, more than a billion dollars was spent to improve and extend the plant last year, bringing the total expenditures for new construction since the war to $4,525,000,000.

At the same time Bell System earnings on capital declined from 5.1 per cent in 1948 to 4.9 in 1949. These facts were revealed by Leroy A. Wilson, president of the American Telephone and Telegraph Company, in the company's annual report.

Consolidated net income of the Bell System applicable to AT&T stock was $232,855,000, or $9.70 on the average investment of nearly $135 per share. This compares with $9.86 per share in 1948.

Further telephone rate increases are necessary, Mr. Wilson said, for a "very simple reason: the increased cost of doing business has made it impossible to earn a reasonable return without them. The telephone companies have not asked nor do they intend to ask for more than is needed to enable them to meet their responsibilities properly and well."

The increases already authorized, plus the full amount now being sought, average only about 20 per cent of Bell System revenues, Mr. Wilson said. He pointed out that the rate increases already granted are only about half the current annual cost—$728,000,000—of telephone wage increases made effective during the war and postwar periods.

A.T.&T. President, Leroy A. Wilson emphasizes need for further telephone rate increases.

Taxes on Bell System telephone service in 1949, including excise taxes, amounted to nearly $800,000,000, about $100,000,000 more than the 1948 tax bill. This is equal to more than $2 a month for every telephone in service. In connection with increases in telephone rates it may be noted that for each $1.00 in additional net revenues, the companies must charge telephone customers $1.61 to offset the additional Federal net income tax, which is at the rate of 38 per cent. In addition the customer pays a minimum of 15 per cent for excise taxes, or 24 cents more for a total of $1.85. Of this the government receives 85 cents and the company $1.00.

During 1949, Mr. Wilson reported, the number of AT&T stockholders increased by 63,700 to a new high of 829,500, and since that time it has risen to 940,000. Today, about one in every 50 families in the country shares directly in ownership of the company. More than 175,000 employees are stockholders. Currently 190,000 employees are making payments, through payroll allotments, on 1,100,000 shares.

During 1949 the System handled a record volume of local, toll and long distance conversations—an average of 132,000,000 a day. The proportion of dial telephones rose to 73 per cent. By the end of the year 25,000 toll circuits reaching more than 600 cities

and towns were so equipped that operators could dial calls straight through to distant telephones. Such "Operator Toll Dialing" speeds long distance and improves the accuracy of the service. In addition, equipment in several areas now enables two and one-half million customers to dial their own calls directly to nearby cities. Among the 2,028,000 telephones added were 295,000 in rural areas, bringing to 1,300,000 the number of rural telephones added by the Bell System since the war. Half of all American farms now have telephones, a far higher proportion than in any other country in the world.

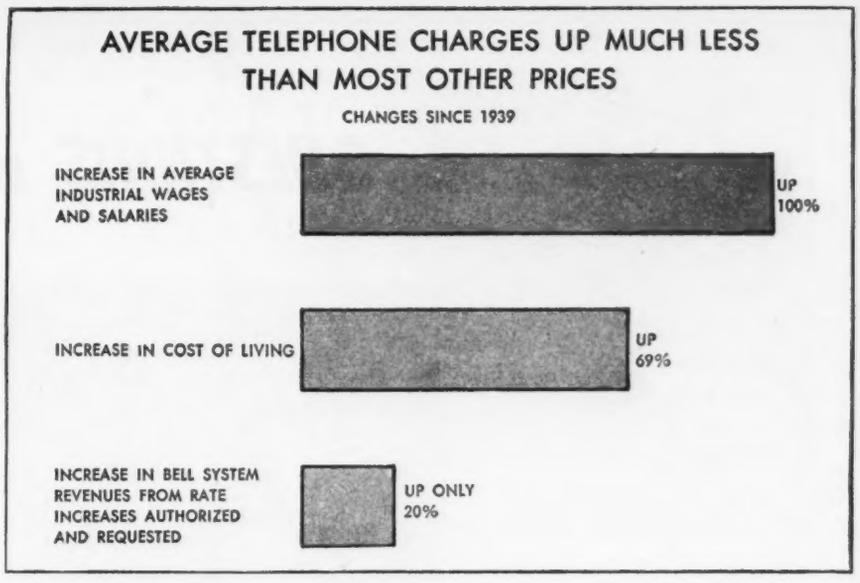
The year 1949 was the third successive year in which the System expended more than a billion dollars for construction. Mr. Wilson pointed out that new facilities required to serve new telephones and to replace used plants cost more than the plant previously in service.

"Technological developments, and improved operating methods help to meet the problem, but in a period of rapidly lifted costs such as we are experiencing they cannot meet it entirely. It is essential that these higher construction costs be adequately recognized in the present repricing of telephone service," he said.

On the average, wage rates are about double what they were ten years ago. During 1949 employees laid aside $257,000,000, about 13 per cent of the payroll, under various thrift plans, including allotments for U. S. Savings Bonds, AT&T stock, and life insurance.

About $180,000,000 was expended in 1949 by the Bell System, including Western Electric and Bell Telephone Laboratories, for pensions and for sickness, accident and death benefits. These payments amounted to 8.9 per cent of the payroll. About $129,000,000 was paid into pension trust funds. From these pension trust funds, accrued in advance on an actuarial basis, pensions were being paid to 22,542 persons at the end of the year.

Mr. Wilson expressed confidence that telephone users "desire good and improving service and prefer to pay what it reasonably costs. We believe the public understands the need for good telephone wages and working conditions—for a sound financial structure—and for earnings that will continue to provide a steady and reasonable return on the billions of dollars invested in the Bell System by hundreds of thousands of men and women. We have confidence that under wise regulation, in the future as in the past, the System will continue to have the means and the freedom it needs to do the best job that it can."


AVERAGE TELEPHONE CHARGES UP MUCH LESS THAN MOST OTHER PRICES
CHANGES SINCE 1939
INCREASE IN AVERAGE INDUSTRIAL WAGES AND SALARIES
UP 100%
INCREASE IN COST OF LIVING
UP 69%
INCREASE IN BELL SYSTEM REVENUES FROM RATE INCREASES AUTHORIZED AND REQUESTED
UP ONLY 20%

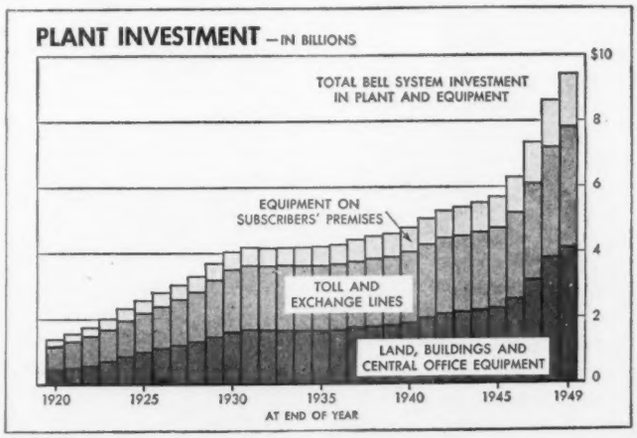
Telephone service is a bargain—Rate increases so far, plus those now requested, average only a penny or so per call. Related to incomes, the real cost of telephone service has gone down.

D. M. Borke Purchases Malvern, Ark. Exchange

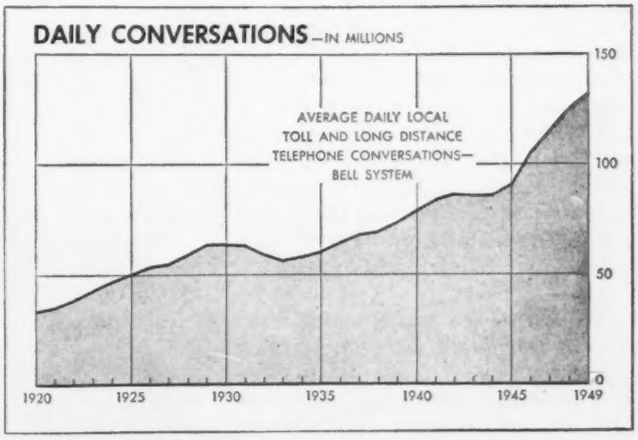
Douglas M. Borke has purchased the Donaldson Telephone Exchange, Malvern, Ark., from Mrs. Jane Ellis, Mr. Borke formerly lived in Long Beach, Cal. He said he expects to install a new switchboard and improve service.

R. R. Mann To Manage Western Exchanges

Richmond Mann recently resigned as district manager of the Indiana Associated Telephone Corp., Liberty, Ind., to take up his duties at his own telephone property in Tierra Amarilla, Park View and Ensenada, N. M. Mr. Mann will locate at Albuquerque or El Paso.



$9,400,000,000 is invested in the physical facilities used by the Bell System to provide telephone service. The greater part is in central office facilities and outside lines, a much lesser part in equipment on customers' premises.



132,000,000 conversations a day were handled by the Bell System in 1949—6,750,000 a day more than in the previous year and a new high record. Toll and long distance messages in 1949 totaled 5,900,000 a day.

QUESTIONS and ANSWERS

Edited By

Jay G. Mitchell

THIS MONTH Mr. Mitchell answers questions on —(1) Through toll traffic puzzle; (2) basis of decision to establish new tributary telephone office or to trunk all calls to main office, and (3) inductive interference.

Question:—Are there any traffic regulations which make it necessary to transfer a through toll call from a primary answering position to a secondary answering position?

Answer:—This inquiry, which apparently involves the handling of a through toll call, is not entirely clear and additional data regarding it is requested. Will you please send in a sketch showing the arrangement of the toll switchboard, state whether it has any toll lines multipled, whether there is any question of remuneration for handling the call at the switching office, whether the toll lines are owned by the company that is asking about the transfer of the through call in whole or in part and whether the toll lines involved in the through call are grounded, metallic or phantom. Please advice also what type of toll switchboard equipment is in use in the switching office, whether the cords are equipped with repeating coils or any of them with repeaters and the length of the toll lines involved. Please supply as much information in addition to the points mentioned as possible. I can then answer your inquiry intelligently.

Question:—We are a small independent telephone company serving a community next to the Ohio-Michigan state line. Originally our two position switchboard, centrally located, served a clientele evenly distributed. In the last few years a neighboring small village which we serve has grown considerably. We have five lines into this village which served these subscribers satisfactorily until this increase in the population. Now these lines are heavily loaded and besides the present subscribers there are many more who wish to have telephone service.

A few members of the Board of Directors wish to see an automatic plant set up there so arranged that all calls outside the village and all toll calls will be handled through our main office which is 3½ miles distant. The other members of the Board wish to run a 3½ mile cable to the center of the village and serve all present and future subscribers through our two position switchboard to which any number of drops can be added. We have two operators on duty practically all day there under present conditions of traffic.

Due to the sleet storms of "47" and "48" the company is still heavily in debt and has just now become able to serve practically all applicants on its existing lines except those located in the village 3½ miles from our headquarters.

We estimate the cost of the automatic plant at about $15,000.00 and that of the cable at about $7,500.00. Our financial condition would delay any relief for a considerable time if they decide on automatic. The argument against cable of that length is that the resistance of the circuits through it would be too high. Will a number 22 gauge cable be sufficient or would you suggest a number 19 gauge? Would you advise waiting until an automatic can be installed?

Answer:—This very interesting inquiry does not give the data which must be considered as the basis on which this company must make it's decision whether to install automatic equipment at the tributary center or to run additional cable there from the main exchange.

These factors are, in the main, the following:

(a.) Is there a present substantial "Community of Interest Factor" between the town in which the headquarters of this company is located and the subsidiary village? This can be gauged by a study of the telephone calls made from and to the subsidiary village and telephone stations in the headquarters town as compared with the proportion of all the calls made in the tributary village from telephones in the village which are for other telephone stations in the village itself.

(b.) Is the population of the subsidiary village likely to continue to increase and if so is the rate of probable future increase in population of the subsidiary village higher than that of the headquarters town?

(c.) Has any canvass of the subscribers in the subsidiary village been made to determine whether the installation of automatic equipment will be considered a reasonable justification for an *increase in rates* there?

(d.) Are all the subscribers in the subsidiary village now served by multi-party rural type circuits and would an appreciable proportion, in that case, welcome automatic service with individual lines at higher rates?

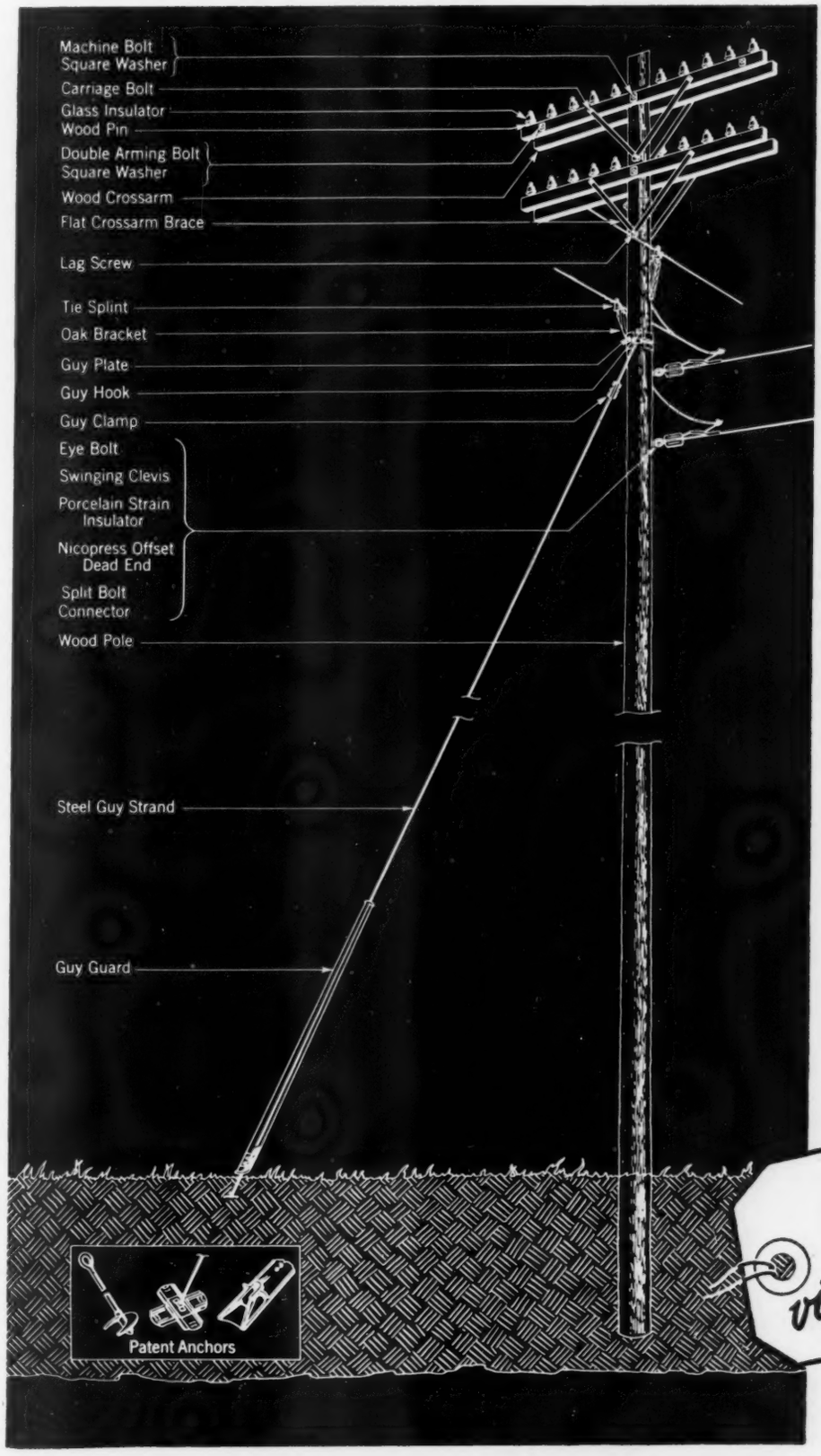
(e.) Are the present five circuits to the subsidiary village in open wire or cable? What is the condition of these circuits now? How much of an increase in the number of interoffice circuits must be provided for to *in-*

(*Please turn to page* 62)

For Everything...

FROM THE BOTTOM OF THE HOLE TO THE TOP OF THE POLE

...*Call* GraybaR



Why spend time shopping around for pole-line equipment and supplies? From nearby Graybar you can fill all your requirements with just one order—and be sure you're getting dependable items. Graybar, pioneer supplier of pole-line items to the independent telephone industry, has always selected only proven products of leading manufacturers who serve the independent telephone industry.

Your local Graybar Representative is anxious to make your order his personal responsibility—he'll see that you get prompt deliveries. In addition, the experience of a Graybar Telephone Specialist is always available to help you solve any unusual technical problems.

Besides pole-line supplies, Graybar can provide everything you need for wiring, ventilating, or lighting your buildings—plus "intercom" systems to speed your office work. Graybar Electric Company, Inc. Executive offices: Graybar Building, New York, N. Y.

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EVERYTHING IN TELEPHONE SUPPLIES via GraybaR

IN OVER 100 PRINCIPAL CITIES

REA Announces Staff Appointments

To meet two pressing problems, the REA Engineering Division has appointed a new assistant chief for telephone design and construction, and a new section to deal with technical operation and maintenance of REA-financed systems has been created.

Raymond W. Lynn, formerly Regional Construction Engineer for the Missouri-Arkansas-Louisiana-Oklahoma area, is the new assistant chief. He will have responsibility for REA's work in connection with design and construction of telephone systems. Chris L. Schultz, who has been Regional Construction Engineer for Illinois, Iowa and Wisconsin, heads the new Technical Operations and Maintenance Section.

Lynn will join Assistant Chief Osborne W. Briden who will be in charge of technical operations and maintenance, and Assistant Chief Wade H. Edmunds, whose responsibilities will include design and construction of electric distribution systems.

RAYMOND W. LYNN

He was born in Xenia, Ohio, and graduated from Ohio State University with a degree in engineering in 1933. Immediately upon graduation he was appointed engineer with the Civil Works Administration. He also served with the Federal Emergency Relief Administration and the Works Progress Administration before joining REA in June, 1936. During World War II, Lynn served as a civilian engineer with the Army Signal Corps, in connection with installing telephone and telegraph equipment along the Alcan Highway. He returned to REA in August, 1944, and was promoted to regional engineer.

The new section to be headed by Schultz will be responsible for maintaining up-to-date information on the most advanced technical operating and maintenance practices. It will develop programs and prepare REA's recommendations and requirements in that field, where necessary. In announcing the new section, REA said:

"In the operation of an electric distribution system, it is customary to expect approximately the same general performance of materials and equipment throughout their anticipated life as when newly installed. This performance cannot be maintained unless adequate maintenance schedules are established and strictly observed. Such maintenance schedules should be based upon the principle of 'anticipate and prevent' rather than 'discover and correct.' Deferred maintenance is expensive maintenance not only in dollars and cents but in the quality of the service and good-will of the consumers. A dollar spent on the prevention of a trouble may save hundreds of dollars that would have to be spent

CHRIS L. SCHULTZ

HOBURG B. LEE

JOHN H. RIXSE, JR.

if the trouble were allowed to develop.

"Proper maintenance is primarily the responsibility of the borrower, and qualified personnel should be employed to supervise this important function of operation as the need for such personnel becomes apparent.

"REA, also, has a responsibility in this matter since the continuing security of the REA loan depends upon the proper maintenance of the facilities financed by the loan."

Schultz was born in Brazil, Indiana, and received an electrical engineering degree from Rose Polytechnic Institute in Terre Haute in 1932. Before joining REA's staff in 1941, he was employed by the Northern Indiana Public Service Company. During the war, he aided in the supervision of the engineering and construction of telephone lines in Alaska.

Hoburg B. Lee, who has been assistant regional engineer in the Southeast, will replace Schultz as regional engineer. He came to REA as a student engineer in 1936. He is a graduate of George Washington University with a degree in electrical engineering. During the war, he saw active duty with the Seabees. He served as utilities officer and engineering officer with a battalion engaged in the construction of the Naval air station in Hilo, Hawaii, and the Naval Supply Depot, Guam.

John H. Rixse, Jr., who was assistant regional engineer in the West, succeeds Lynn. Rixse, a native of Oklahoma City, was graduated from George Washington University with a degree in electrical engineering in 1938. He joined REA's staff in February 1946 after almost 4 years in the Navy. During his war service, he served in various capacities, including Assistant to Repair Officer, Electrical Superintendent of an overseas Repair Base and on special assignment in the Bureau of Ships. Prior to his Navy career, he was an instructor in electrical engineering associated with the University of Virginia and an engineer with the Potomac Electric Power Company.

North Dakota Company To Apply For REA Loan

Members of the Berthold (N.D.) Farmers Telephone Co. have voted to assess stockholders $5 per share toward erasing an operating loss of $1,102 incurred during 1949. The assessment was voted when a motion to raise rates $1 a month per telephone was defeated.

L. N. Lautenschlager, president said the deficit was caused mainly because of two severe sleet storms and the purchase of a service truck.

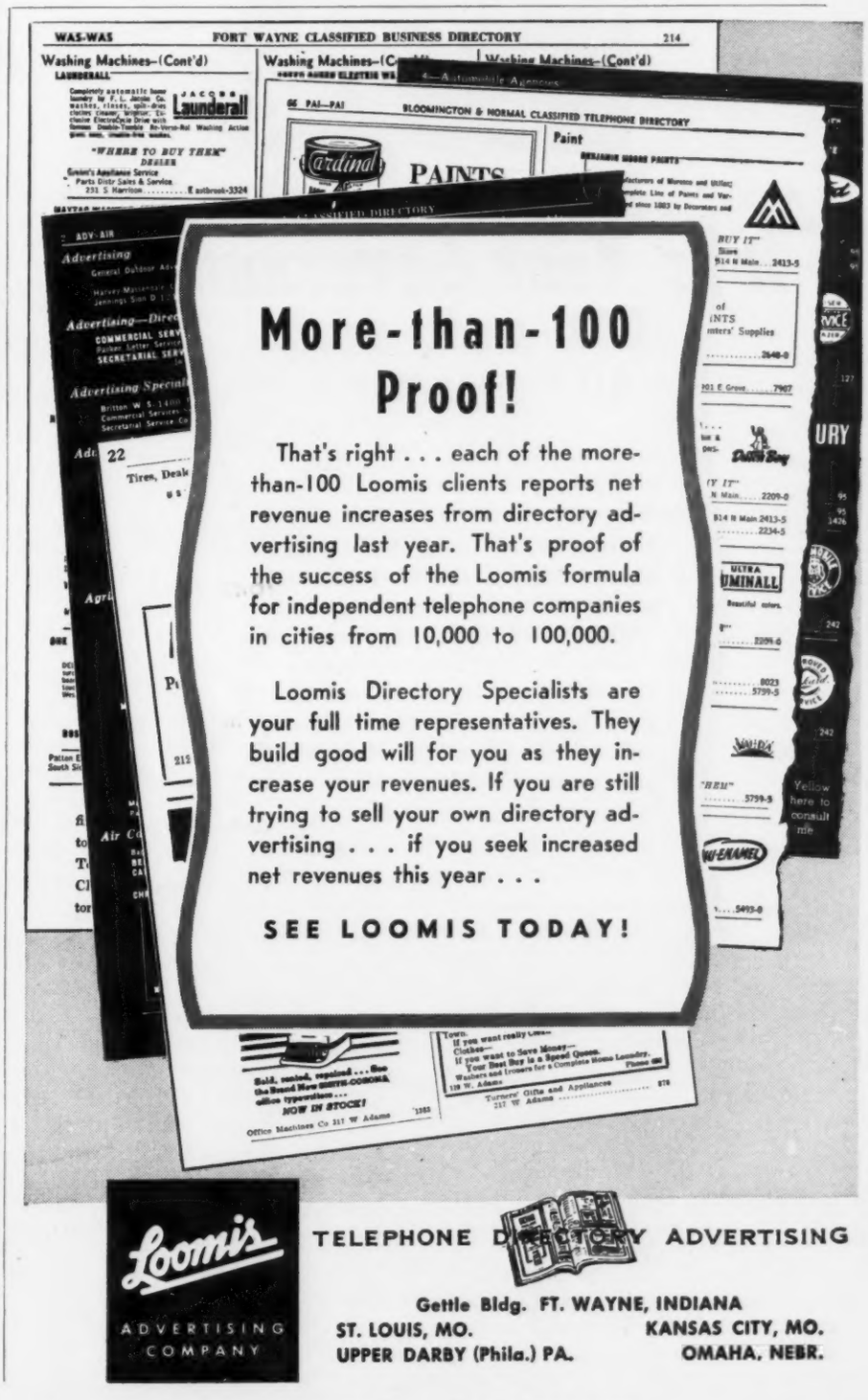
Secretary J. S. Cox has been instructed to apply for an REA loan of $50,000 for rebuilding and extending lines.

Wing, N.D., Residents Study Rural Co-op Plans

Wing, N.D., farmers may go in with the Wing Telephone Exchange, and apply for an REA loan and form a large co-op. The course of action was decided upon at a meeting of nearly 50 farmers from 12 townships at the Wing Hall recently.

The Wing Telephone Exchange has been operated for about five years by its present 18 stockholders.

It was decided at the recent meeting to contact farmers in all the represented townships as to the possibility of setting up the co-op. Committeemen were selected to check townships. Township meetings are being planned. If successful, the proposed co-op may be organized sometime during the spring.


More-than-100 Proof!
That's right . . . each of the more-than-100 Loomis clients reports net revenue increases from directory advertising last year. That's proof of the success of the Loomis formula for independent telephone companies in cities from 10,000 to 100,000.
Loomis Directory Specialists are your full time representatives. They build good will for you as they increase your revenues. If you are still trying to sell your own directory advertising . . . if you seek increased net revenues this year . . .
SEE LOOMIS TODAY!
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UPPER DARBY (Phila.) PA. OMAHA, NEBR.

"It Is Your Government"

By Robert L. Johnson

President, Temple University and Chairman, "Citizens' Committee For The Hoover Report."

HOW LONG would your company stay in business if it lost money and ran into debt year after year? For that matter how long could you run your own home if you spent $10 to go to the store to buy one dollar's worth of goods?

On any such basis, you'd soon be out of a job—and a home.

Year after year the federal government loses money. It spends, literally, more than $10 filling out forms to place a single purchase order. And half the things it buys cost less than $10.

Uncle Sam is just about the world's worst manager. He owns $29 billions worth of goods, including a million automobiles, and has no clear account of where they are or what they are. Some of his departments are stocked up 50 years ahead on simple supplies.

He borrows money from himself and pays interest on it. He maintains enough records and documents—mostly worthless—to fill six Pentagon Buildings. He keeps seven different sets of books. Neither his books nor his budget give any real notion of the financial score. The Post Office, for example, has to wait eight months to find out exactly how much money it has lost. This year it will lose about $500 millions. This is more than the cost of the whole government 50 years ago.

If you're an ex-serviceman you saw money thrown around in wartime just as I did. In war some extravagance is unavoidable. But in *peacetime* the Army asked funds for houses in Alaska at $58,000 per house, and for 829,000 tropical uniforms at $129 apiece.

These are just a few examples from the Report of the Commission on Organization of the Executive Branch of the Government.

It all began because Congress, President Truman, and the public saw real danger in government duplication, lack of organization, and waste. In July 1947, Congress created the Commission with six leading Democrats and six outstanding Republicans as members. At President Truman's suggestion, former President Herbert Hoover was named chairman and Secretary of State Dean Acheson vice chairman.

The Commission put 300 experts to work digging up facts. Nobody was mad at anybody. Everybody wanted to get at the truth. After months of hard study resulting in two million words of facts and figures, the Commission reported to Congress that bad organization and outmoded methods are laying a heavy toll on the nation. At least $3 billions and, I think, $4 billions a year can be saved without cutting government services.

You and I are citizens. We pay taxes. We'd better have a good look at our government before it gets too big for us to understand and

"It Is Your Government"

REORGANIZATION is perhaps the most vital and important issue confronting the American people and the Congress of the United States today. It is a complex problem with many ramifications and is not easily understood. However, it is imperative that every thinking citizen know exactly what it means and what it will accomplish.

For this purpose TELEPHONE ENGINEER AND MANAGEMENT is opening its pages to a series of articles by ROBERT L. JOHNSON, President of Temple University and Chairman of the "Citizens Committee for the Hoover Report," a voluntary, nonprofit, nonpartisan organization of leading citizens which has undertaken the task of informing the public of just what Reorganization means and what the Hoover Commission recommendations, if enacted into law, will mean to each individual and to the nation.

We know you will be interested in learning why the Federal Government absorbs one dollar out of every five that you earn, why the average citizen must work 47 days each year just to pay Federal taxes, and how your present income taxes could be lowered by at least 10%.

We commend Dr. Johnson's articles to you and hope our readers will follow the series and thus become familiar with the country's number one problem, reduction of taxes and improved efficiency in the operation of the government.

too costly for us to support. If that should happen the government will no longer work for us; we will work for it. Many free peoples in history have lost their freedom in that fashion.

Put it another way: We now pay in federal taxes $300 a year per person, over $1,000 per year per family. We pay income taxes which we can see, and other taxes which we can't see:—60% on cigarettes, 25% on such things as cameras, 20% on light bulbs, cosmetics, luggage and so forth; 15 percent on travel and 15 to 25% on telephone calls. We pay taxes upon taxes in the cost of everything we eat, wear, and use.

We carry a big load of debt—$7,000 per average family. This isn't pie in the sky. It is my promise to pay—and yours—as real as any grocery bill. We pay interest, at the rate of $150 per family per year, on that debt.

Let us look facts in the eye: The purchasing power of your dollar and the living standards of your family are undermined by useless federal expenditures. Your dollar is worth only half what it was ten years ago, and taxes are a major reason. At the present pace it may soon be worth much less than that.

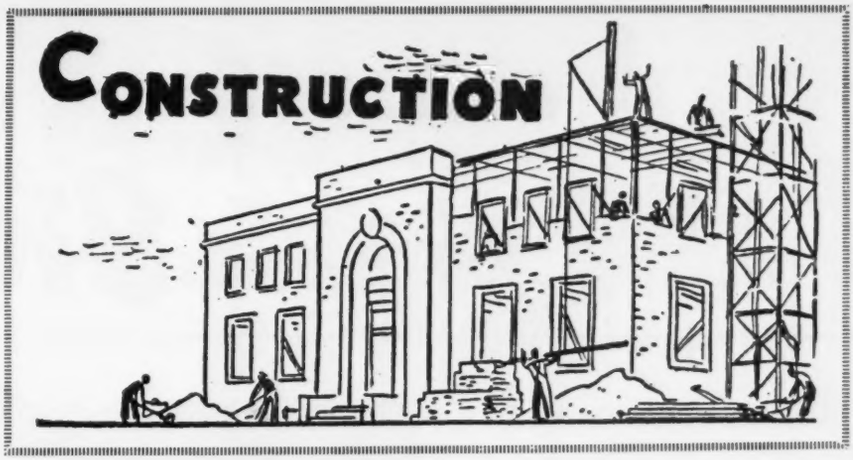
What to do about it? In the last analysis it's your government! Its actions are your actions. You have a vote in its management—not once every four years, once every two years, nor once a year, but *once a day*. You can express yourself in favor of "better government at a better price." But you must, first of all, understand the problem.

In the next article in this series I'd like to tell you more about the necessity for government reorganization. Meanwhile let's remember what Mr. Hoover said on his birthday: "*If the people are to run the government, it is the people who must think.*"

W. S. KINGMAN has been named treasurer of the Chenango & Unadilla Telephone Corporation, Norwich, N. Y. His appointment is to fill the vacancy created by the resignation of T. HARVEY FERRIS of Utica, W. A. Seely, company president and general manager said.

Mr. Ferris was the first treasurer of the company and was named at its organization meeting Feb. 18, 1922. He continues as a member of the board of directors.

Mr. Kingman is a graduate of the Pace Institute of New York and was formerly with Davies and Davies, public accountants of New York.



(Our readers are invited to send in news items concerning their construction-improvement projects for use in our new department. Just address News Editor, Telephone Engineer Publishing Corp., 7720 N. Sheridan Rd., Chicago 26, Ill.)

CALIFORNIA

CAMARILLO, CALIF.—Earl Bailey, local manager of the Associated Telephone Co., Ltd., has announced that work is under way to provide urgently needed inter-office trunking facilities between the Oxnard and Camarillo central offices. It is estimated that $76,000 will be spent on this project and that it will require 8,340 hours of labor. Approximately 7,330,000 conductor feet of cable will be placed.

ILLINOIS

SYCAMORE, ILL.—The Sycamore exchange of the DeKalb Ogle Telephone Co. is being rapidly converted to automatic operation. Automatic systems were installed in eight smaller exchanges in the same area before the war.

MATTOON, ILL.—The Illinois Consolidated Telephone Co., has started preparations for the scheduled change-over of the Mattoon exchange to automatic operation, according to Richard F. Record commercial manager of the company.

"Workmen already have begun the task of equipping local telephones with dials," Mr. Record said. "This work is in anticipation of the conversion to automatic operation, which is scheduled for midsummer."

The total number of telephones on the Mattoon exchange hit an all-time high of more than 7,000 at the end of 1949, and when the current program of changing to the dial system is completed, the exchange will have approximately 8,000 telephones.

"We have 500 applications for service within the city that can't be filled at the present time," Mr. Record stated. "In addition, nearly 100 rural establishments want Mattoon exchange service. The new equipment will have the capacity to serve all on the current waiting list."

IOWA

BREDA, IA.—Improvements costing approximately $40,000 have been completed by the Breda Farmers Co-Operative Tel. Association, giving Breda and the surrounding territory the most modern service. Major improvements include new type telephones and metallicized lines. Officers of the association are: Walter Mohr, president; A. F. Wilberding, vice-president; August Beckman, secretary-treasurer; Floyd Hackett and Carl von Glan, directors.

LAURENS, IA.—Rural lines of the Pickeral Lake Telephone Co. are to be rebuilt in the spring it was decided at a recent meeting of stockholders.

J. H. Phillips, president of the company, estimated the project will cost about $100 per telephone. Under a plan set up at the meeting this will be figured on the basis of 20 years use, so that a stockholder leaving the community after one year would be able to get back all but one-twentieth of the special assessment.

MALLARD, IA.—The Mallard Telephone Co. has announced plans to replace some of its old cable with a larger size. The project will cost approximately $2,000. This will be the start of a plan whereby all present telephone wires in town will eventually be in cables.

NEWS BRIEFS

USITA Plant Committee Meets In Chicago

The Plant Committee of the United States Independent Telephone Association met in Chicago, February 15-16 at the Palmer House. Committee members present were: W. M. Driggs, Chairman, Bloomington, Ill., F. E. Behm, Lincoln, Neb.; B. C. Burden, Lincoln, Neb.; G. W. Miller, Rochester, N. Y.; D. S. Seitz, York, Penna.; G. T. Sims, Dallas, Texas; W. O. Trettin, Springfield, Ill., and A. A. Wilson, Mattoon, Ill.; T. D. Talmage, representing F. M. Parsons, Chicago, Ill., and G. C. Richert, Washington, D. C., also attended the meeting.

Chairman Driggs stated that the meeting had been called for the purpose of developing the plans and procedures necessary to effectively implement the committee's program for this year as contained in the report presented by Mr. Burden at the Plant Conference on October 10, 1949 and which had been approved by the association's officers.

After general discussion it was agreed that the following sub-committees be organized and that the Directors of each subcommittee be given the responsibility for the preparation of the paper on each subject assigned to his subcommittee, as indicated, from information submitted by the members of his subcommittee:

(1) Wire Plant—F. E. Behm, director; A. A. Wilson, co-director. (a) Drop Wire usage Trends. (Including surplus materials.) (b) Transposition Practices for Small Companies.

(2) Cable—D. S. Seitz, director. (a) Use of Buffer Protection.

(3) Pole Line and Conduit, A. A. Wilson, director. (This subcommittee to operate on a standby basis).

(4) Transmission, Testing and Inductive Interference, B. C. Burden, Director (a) New Testing Techniques; (1) Electronic; (2) Cable Flashing.

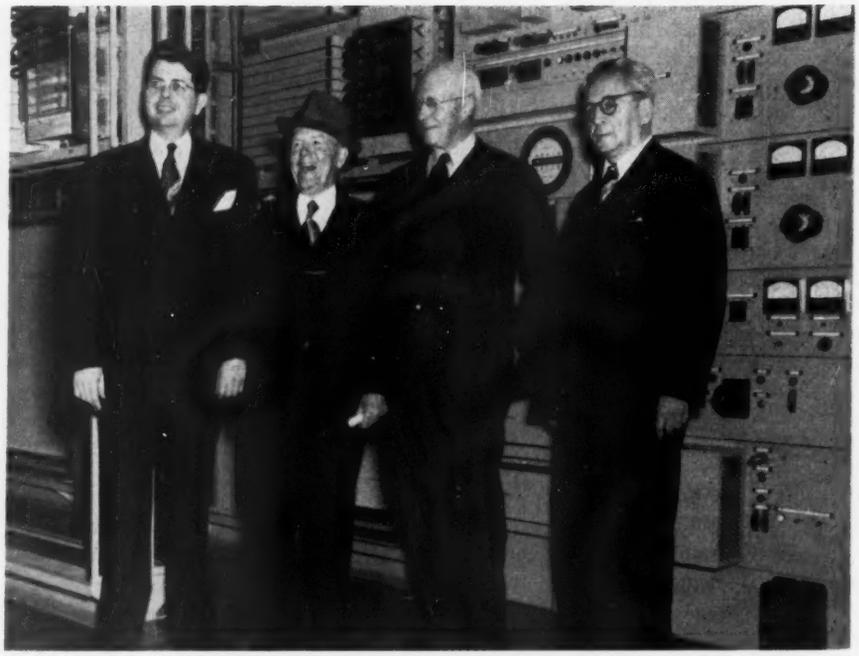
(5) Central Office and Station Equipment, G. W. Miller, director.

(6) Joint Pole Use, W. O. Trettin, director.

(7) Radio and Carrier, G. T. Sims, director. (a) Progress to Date in Use of Radio in Telephone Field.

(8) New Techniques and Equipment, Ray Blain, director.

(9) Exhibits, F. M. Parsons, director.



Stromberg-Carlson visitors congratulate J. SMITH LANIER, second from left, founder and first president of the Lanier Company, on successful cutover of new Stromberg-Carlson 1000-line XY dial system. Others in the picture are, from left, JOHN H. VOSS, chief telephone engineer; WESLEY M. ANGLE, honorary chairman of the board, and HENRY M. BASCOM, telephone consultant.

West Point, Ga. Converts To XY Dial Operation

J. Smith Lanier, founder and first president of the Lanier Company, now the Interstate Telephone Co., has announced the recent cutover of the West Point, Ga. exchange to automatic operation.

The new 1,000-line, shelf-type, Stromberg-Carlson XY dial system contains the latest developments, including toll dialing for service to nearby cities, complete new power equipment, new No. 3-type toll board, and new exchange building. New subscriber telephones have, for the most part, replaced old and many additions to, and extensions of, existing outside plant facilities have been made.

The company was founded by Mr. Lanier in 1896 and was one of the first rural telephone systems in Georgia. His original subscribers numbered 36. Known for years as the Lanier Company, under a partnership composed of himself and his four children, it became a corporation last January 1 under the title of the Interstate Telephone Co. Cam B. Lanier is president; Miss Edith K. Lanier, vice-president; and Mrs. Ruth Lanier Mize, secretary-treasurer. Mr. Lanier and Mrs. Gillion Lanier Nash are the new directors.

Lanier gave a dinner party for approximately 150 guests, some of

whom came more than 350 miles to the cutover ceremonies. The visitors were: Frank S. Barnes, president, and John S. Barnes, equipment engineer, Rock Hill (S. C.) Telephone Co.; C. Bruce Barksdale, president, A. C. Carey, plant manager, C. F. Rickenbacker, wire chief, and A. J. Capici, equipment engineer, Greenwood (S. C.) Telephone Co.; Mr. and Mrs. R. A. Bailey, Leeds (Ala.) Telephone Co.; Mr. and Mrs. C. McCabe, Blakely (Ga.) Telephone Co.; W. L. New, president, Commerce (Ga.) Telephone Co.; J. S. Peters, manager, and Clint Dunn, plant superintendent, Mutual Telephone Co., Manchester Ga.

Stromberg-Carlson was represented by Wesley M. Angle, honorary chairman of the board; John H. Voss, chief telephone engineer; Henry M. Bascom, telephone consultant; William L. Mollands, Atlanta manager, and Frank R. Edgarton, telephone apparatus engineer.

Lewis F. Shepherd Elected Pres. Penn. Tel. Corp.

At a meeting of the Board of Directors of Pennsylvania Telephone Corp. on February 22, Lewis F. Shepherd was elected president of that company, effective March 1, 1950. Pennsylvania Telephone Corp. is a subsidiary of General Telephone Corp.

For the past three years, Mr. Shepherd has been president of the Indiana, Kentucky and Michigan companies of the General System, with headquarters at Lafayette, Ind., and he assumes his new responsibilities in Pennsylvania after a long and successful experience in the telephone industry.

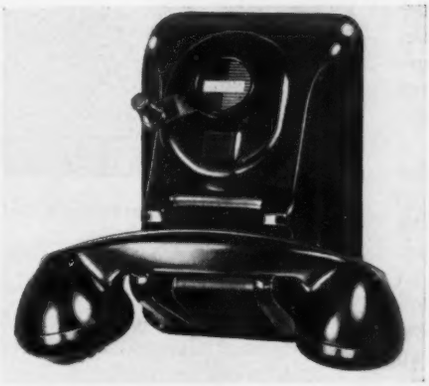
Mr. Shepherd, a native of Illinois, started in the telephone business in 1924 with the Winnebago County Telephone Co. at Rockford, Ill., starting in the plant department. In 1926, he transferred to the Belvidere Telephone Co., then and still a part of what is now the General Telephone System, where he served as lineman and wire chief.

In 1928, he transferred to the Common-wealth Telephone Co. as local manager of one of its exchanges, later becoming traffic engineer in the Madison headquarters, from which the companies in Wisconsin, Illinois, Michigan, Indiana and Kentucky were then supervised. After a few years' experience as traffic superintendent with the Illinois company, he became in 1935 general traffic superintendent of the entire group of companies in the five states, two years

since 1926...

You Couldn't Ask for More

The Leich No. 901 Magneto Telephone



. . . gives all you could ask for . . .

- Best transmission
- Strong eye appeal
- Greater convenience
- Wall or desk mounting without change

You will be delighted with this new magneto telephone that can be easily converted to manual common battery or dial. It is arranged for either wall or desk mounting without any change whatsoever.

It's Priced Right Too—

1600 ohm $29.35 2500 ohm 29.55 (F.O.B. Chicago)

IMMEDIATE DELIVERY

ELECTROX

Electrox Battery Eliminators are designed for a single telephone or a large switchboard. Smooth and dependable in operation they last many years. Write for information on an Electrox for your specific application.

We stock a complete line of telephone supplies for rush equipment.

DANIEL H. McNULTY
President - Manager

TELEPHONE REPAIR & SUPPLY COMPANY

1760 Lunt Ave. • Chicago 26, Illinois

later also assuming the responsibilities of general commercial superintendent.

In 1942, he added to his responsibilities that of becoming personnel director. During the war, he also served as the representative of the Independent telephone industry on the Telephone Panel of the War Labor Board, later the Telephone Commission of that Board, in which work he made an enviable reputation. In July, 1944, he became vice president and general manager of Illinois Commercial Telephone Co., which, incidentally, in 1946 acquired the Winnebago company where Mr. Shepherd started his telephone career. In March 1947, Mr. Shepherd moved to his position at Lafayette, Indiana.

Mr. Shepherd is a vice president and director of General Telephone Service Corp., the company of the General Telephone System which advises and renders service to all of the constituent parts of the system. He is also a director of the United States Independent Telephone Association. Mr. Shepherd has always been active in civic affairs wherever he has been located, and in Lafayette was a member of various civic associations and a director of the Lafayette Chamber of Commerce.

P. W. CONRAD, president, Ohio Consolidated Telephone Co.

Ohio Consolidated Announces Organization Changes

The following changes in the executive organization of the Ohio Consolidated Telephone Co., Portmouth, Ohio, were made at a directors' meeting of the company held Tuesday, January 31.

Allen S. Crane, president of Ohio Consolidated since 1945 and now chief executive of the telephone operating division of the Gary Group, was elected chairman of the board. P. W. Conrad was elected president to succeed Mr. Crane; L. F. Roberts was elected vice president; and R. N. Cole was appointed general manager.

Mr. Conrad, the new president of the company, entered the telephone business when he joined Automatic Electric Co., Chicago, in 1934. He has since held a succession of executive positions with that company, having been president from 1937 to 1944.

Previously to joining the Automatic company, Mr. Conrad had traveled extensively in the interest of other companies engaged in sales and sales promotional work, including the Linde Air Products Company, the American Export lines, the Aeolian Company and Halsey Stuart Company. He is a graduate of Amherst College and has also completed graduate work in public utilities and allied fields at the Harvard Graduate School of Business Administration.

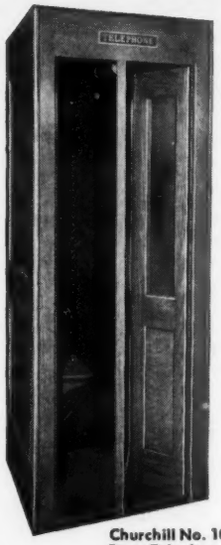
Mr. Conrad brings to his new position a unique combination of experience and ability and his services are expected to assist materially in the program of improved and extended service to customers in the 39 communities in which Ohio Consolidated operates.

L. F. Roberts is well known in the Independent operating field where he has been a familiar figure at telephone conventions as general representative of the Gary Group. He recently went to Ohio Consolidated as commercial superintendent, and now becomes vice president in charge of commercial and public relations activities.

R. N. Cole, who went to Portmouth in 1947 from Illinois Telephone Company, Bloomington, Illinois, has become well known for his business and civic activities and has been promoted from general superintendent to general manager.

HARVEY C. WRIGHT, owner of the Aline (Okla.) Telephone Exchange reports his exchange was recently given a high rating by representatives from the Oklahoma Corporation Commission. Wright has just completely rebuilt the lines in and around Aline, using heavy creosoted posts in all installations. A large amount of new wire was strung, and all connections soldered. More than 6,000 feet of the systems in Aline is in underground cables.

STROMB



The Churchill No. 100 Folding Door Telephone Booth

churchill
ventilated
telephone booth

Attractive—available in two finishes to harmonize with any interior. Included as standard equipment are electric light and automatic electric ventilator.

Users appreciate the comfort and privacy of a Churchill telephone booth—operating companies find it profitable.

Constructed as a single unit and equipped with reinforced back panel for mounting a wall telephone or coin collector.

No. 100-A—Selected white oak, in light medium oak satin finish.

No. 100-B—Birch, mahogany finish.

Overall height is 84¾"; width, 30½"; depth, 30½". Shipped knocked down and crated.

Illustrated literature available.

STROMBERG-CA

STROMBERG Telephone CARLSON

TELEPHONES, SWITCHBOARDS • SOU EQUIPMEN

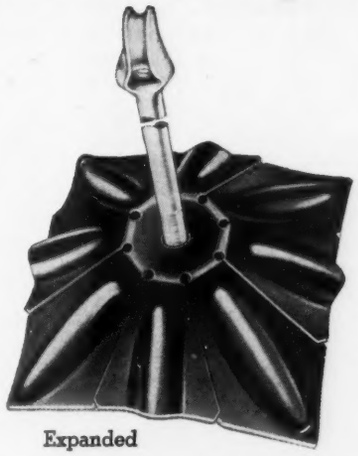
BERG-CARLSON recommends...

more holding power for less money!

chance 8-way expanding anchors

The load is distributed over eight ribbed blades which expand to form a conical shaped square and pull against an inverted cone of earth — this means greater holding power. And the simplicity of design makes this anchor easy to expand. There are no moving parts, arms or mechanical devices to hinder smooth operation.

Mfd. by A. B. Chance Co.



Expanded

a product of actual field study

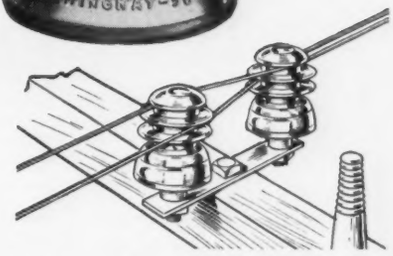
The Reliable B27 Protected Cable Terminal has resulted from basically sound engineering, supported by actual field experience. It places all connections within convenient reach of the lineman without necessity of removing fuses or reaching around the terminal—also a decided advantage in inspecting.

Detachable mounting bracket permits one-man installation. Ground connection is made directly to ground strip, reducing possibility of high resistance ground. Reliable Self-cleaning Sawtooth Discharge Blocks are standard—insuring dissipation of static discharges without danger of unnecessarily grounding the line.

RELIABLE
B27 CABLE TERMINAL

number 56...

low cost, but with the high standards of all hemingray insulators



Hemingray's popular "Number 53" now has a new, lower-priced companion—Number 56. Like its larger counterpart, "56," when used in point transpositions, requires no special hardware and goes on standard pins.

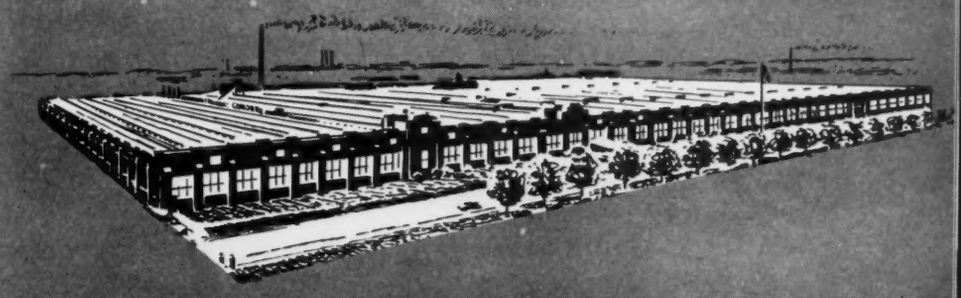
Tested by the A.S.T.M. (method D-468-42), it meets the product specifications of utility companies and maintains the high level of quality which has made all Hemingray insulators a standard in the communication industry.

Packed: 40 to a carton, weighing 59 lbs.

Manufactured by American Structural Products Company

CARLSON

Factory, General Offices: Rochester 3, N.Y.
Branch Offices: Atlanta 3, Chicago 6, Kansas City 8, San Francisco 3. In Canada: Stromberg-Carlson Co. Ltd., Toronto



EQUIPMENT AND ELECTRONIC CARILLONS • INDUSTRIAL, INTERCOMMUNICATION SYSTEMS • RADIOS, RADIO-PHONOGRAPHS, FM AND TELEVISION

"PACKAGED POWER"
for your PBX and SMALL SWITCHBOARDS

THE LORAIN
SUB-CYCLE
"RT-UNITS"

Here combined in one cabinet is both a *Ringing* and a *Talking* power supply. They provide a choice of either 20 or 30-cycle SUB-CYCLE RINGING CONVERTERS, and are available in 4 Models.

RINGING CONVERTERS

- RT-1—3½ W. 20-Cycle ringing +.87 amp. 14-28 V. DC talking.
- RT-2—3½ W. 20-Cycle ringing +2 amp. 24 or 34 V. DC talking.
- RT-3—3½ W. 30-Cycle ringing +.87 amp. 14-28 V. DC talking.
- RT-4—3½ W. 30-Cycle ringing +2 amp. 24 or 34 V. DC talking.

For Details See Bulletin 159

LORAIN "T-UNITS"

- T-1—0.87 amp. 14-28 V. DC talking
- T-2—2.0 amp. 24-34 V. DC talking
- T-3—0.5 amp. 22-30 V. DC talking
- T-4—1.0 amp. 40-52 V. DC talking
- T-5—0.5 amp. 10-16 V. DC talking
- T-6—1.0 amp. 5-8 V. DC talking

For Details See Bulletin 159

LORAIN DIAL TONE GENERATORS

Lorain Dial Tone Generarors Available in 7 Models. See Bulletin 156. For Specifications and Prices See Your Local Lorain Distributor.

LORAIN
PRODUCTS CORPORATION
DEPT. L, 1122 F ST., LORAIN, O.

FLOTROL
SUB-CYCLE

Questions And Answers

(*Continued from page 52*)

sure adequacy in the near future taking into consideration the answer to (b) and (d)?

These factors must be given careful consideration as well as the estimated cost of the new plant in each case. The possibility of increasing the rates for telephone service in both places must also be considered. Even assuming that the two estimates are correct it is obvious that the Fixed Capital of the company is due to be increased and should be able to carry itself on a reasonable basis of return.

It must also be remembered that an automatic installation can be expected to serve an increased number of subscribers more economically than an inadequate cable run. There are many other factors to consider when making the decision as to which type of Plant expenditure should be made. Doubtless many have been formulated. However in case I can be of any help please write me again.

The type and gauge of the interoffice cable cannot be decided until the general plan has been formulated.

Question:—We have about nine miles of telephone line (grounded line, one wire). It runs parallel with a power line most of the distance and has had a hum which is much worse than other lines in the vicinity. There is another line that is not used on the same poles as the active line that we use. The dead line is not grounded. Could it be that the dead line is collecting the hum and transmitting it to the live line? Would it help if the dead line were grounded in several places? Would tree limbs near the line make the hum worse and would bad splices help to induce noise into the line? Any help that you can give us will be greatly appreciated. It was suggested by The Telephone Repair & Supply Company that we write you.

How many ohms of resistance should a mile of good line have?

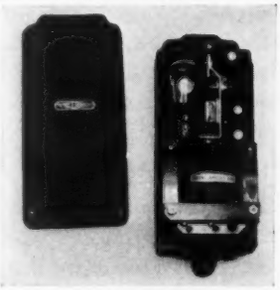
Answer:—Since this inquiry describes a grounded telephone circuit that is paralleled by a power line for most of its length it is reasonable to conclude that the bad hum on the telephone line is due to Inductive Interference or actual low insulation leakage or both. The dead line can hardly be charged with the trouble but if it is dead why not ground it in several places and find out what effect the grounding has. The reference to tree limbs causes me to speculate as to whether the noisy telephone line and the power line may not *both* be in need of careful tree trimming operations. However telephone lines should require supply circuits (electric light and power circuits) to keep their new and old circuits at least the width of the highway from telephone circuits. In this case why not acquire the dead line and make a metallic circuit by combining it with the present working circuit which can then be transposed properly. The telephone wire should be separated from the power circuit even at the cross overs by a separation distance of not less than five feet. Poor splices, unless they are so bad as to cause actual cutoffs will not make the induced or leakage hum on grounded telephone circuits worse than they would otherwise be. The normal resistance of

TELEPHONE RINGING
BY FREQUENCY CONVERSION

The TELERING is a small simple, highly efficient ringing machine at the remarkably low price of

$34.50

Size 4" x 4½ x 10" Weight: 8 Pounds



TELERING MODEL R

The Telering supplies ringing current by the direct conversion of power line frequencies.

Voltage Range for all purposes, central office and private branch exchange.

Considering the all inclusive features of this set there is no substitute.

For Further Information Write

TELKOR
BOX 186 ELYRIA, OHIO
or
Leading Distributors

telephone wire is about as follows:

Number 14 Galvanized iron E.B.B. 49.08 ohms per wire mile; B.B. 57.44 ohms per wire mile.

Number 12 Galvanized iron E.B.B. 28.46 ohms per wire mile; B.B. 33.30 ohms per wire mile. In metallic circuits the resistance per *circuit mile* should be about twice the values listed above.

Copper wire resistance is lower than iron and for the commonly used sizes is as follows:

Number 12 B.&S.G. Hard drawn, 8.19 ohms per wire mile; Number 12 N.B.S.G. Hard drawn, 4.97 ohms per wire mile; Number 10 N.B.S.G. Hard drawn, 3.28 ohms per wire mile.

Indiana Commission Grants Emergency Rate Hikes

Twelve Independent telephone companies in Indiana have been granted emergency rate hikes totaling $233,983 annually to compensate for increased operating costs resulting from the new 75-cent Federal Wage minimum.

Hugh W. Abbett, chairman of the Indiana Public Service Commission, said hearings will be held on each case, however, before permanent rate schedules are established.

The rate increases range from a top of 38.8 per cent granted to the Central Mutual Telephone Co. of Shelburn to 6 per cent for the United Telephone Co., Warsaw.

The list of companies and estimated amounts of additional revenue the increased rates will produce annually are as follows:

United Telephone Co., Warsaw, $85,273; Indiana Telephone Corp., Seymour, $64,240; Carroll Telephone Co., Delphi, $10,897; Citizens Telephone Co., Fairmount and Fowlerton, $4,651; Central Mutual Telephone Co., Shelburn, $5,742; Jasper County Telephone Co., Rensselaer, $10,863; Remington Telephone Co., Remington, $4,226; Arcadia Telephone Co., Arcadia, $2,315; Attica Telephone Co., Attica, $1,140; Garrett Telephone Co., Garrett, $13,043; Midwest Telephone and Utilities Co., Inc.; Petersburg, $12,559, and the Tipton Telephone Co., Tipton, $19,030.

Rural Telephone Meeting Held at Glasgow, Ky.

Farmers interested in having telephone service attended a county-wide meeting at Glasgow, Ky., recently, according to announcement by county agent J. O. Horning, Glasgow, Ky. The county agent said that community telephone committees were set up in several communities last spring and these committees attended.

Plans were made to apply to the Rural Electrification Administration for aid and assistance in bringing rural telephone plans into operation in the county according to the county agent.

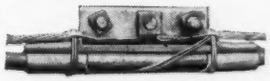
Nevinville, Ia., Company Plans For Rural Loan

The Nevinville (Ia.) Telephone Co. will apply to the Rural Electrification Administration for a loan to improve its lines, the board of directors decided at the recent annual meeting. Application will be made to determine if the company can qualify as a borrower under the new federal program to improve and extend rural telephone systems.

The directors elected officers of the company at the meeting. Charles Blazek was elevated from vice president to president and Clifford Rice, retiring president was elected manager, secretary and treasurer. Lester Gibson was named vice president.

Line Jobs Are Easier . . . Safer . . . Less Costly When Your Crews Are Properly Equipped

Neale Model B One-Man Cable Spinner Operates from ground or strand.



Molded Lead Shield Gives more protection at the pole.

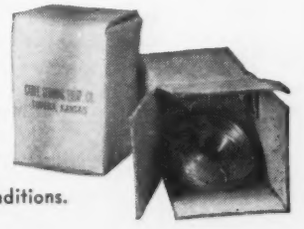
Performance pays off—that's why more and more independent telephone companies are specifying Cable Spinning Equipment Company precision engineered tools for their crews.

And Cable Spinning Equipment Company accessories help linemen work faster and in greater safety—thereby cutting your construction, maintenance and repair costs.

There's a complete line to choose from. Ask your jobber today to show you how Cable Spinning equipment can help you save money.

For BEST RESULTS . . Use NEALE Wire!

Available in seven different types and sizes, famous NEALE Spinning Wire meets the toughest construction and corrosion conditions.



CABLE SPINNING EQUIPMENT CO.

TOPEKA, KANSAS Phone 3-1829

The Money Markets

(Continued from page 33)

basis, but the foregoing refers to long term bonds.

The advantages of this method to the utility are obvious. A series of short term loans which must be repaid at a future fixed date may require the sale of long term bonds or other securities in an unfavorable market, although, of course, the reverse might be the case. The utility speculates. As for the lender, he may find before the term is up that he can buy bonds at a lower price, but such a development would affect only part of his investment and as an average he would lose so little that it would not hurt. The telephone utility with long term construction program may find it worth while to try for such an arrangement.

Corporate bond financing last year, as noted elsewhere, was smaller than the year before, and there was a decided tapering off in volume toward the year-end. This was not according to Hoyle, since the last quarter of the year is usually one of the busiest in security underwriting. The first two months of this year again showed continuing shrinkage. In these conditions, the eagerness of underwriting houses for material to work on resulted in overbidding for such few new offerings as there were. Resale prices then met with resistance from buyers. At the year-end large blocks remained unsold of Mohawk Power's new 2.75% and United Gas new 2.75%; these and the Central Illinois Light $12,500,000 at 2.625%, offered in early December on a 2.58% basis, were not fully sold until near the end of January. Madison Gas & Electric's little $3,000,000 of 2.625% on a 2.60% basis met with a similar reception. The American Telephone & Telegraph $200 million new 2.75% debentures took only about three weeks to sell, but the $100 million of International Bank for Reconstruction and Development new 3 to 12-year serials proved very sticky; offered on Jan. 26 at 1.35% to 1.95% basis for most maturities, the end of February saw no appreciable portion of the issue placed with ultimate investors.

Telephone utilities did very little bond financing during the period, and most of it was by private sale. The Associated Telephone, Ltd., $9,000,000 of 1st 2.875% offered to the public on a 2.85% basis, was quickly placed.

Nine months is a short time, but in the securities markets it can see developments of importance. Last summer several prominent utilities were struggling to place their new issues of preferred stock, and with indifferent success or none at all. Public Service Electric & Gas offered for bids 200,000 shares new preferred, the best it could get was a small premium for a $4.50 dividend; company rejected all bids and finally made the issue in October on a 4.00% basis. Northern States Power of Minnesota accepted a bid of 100.76 for a preferred with $4.80 dividend; the syndicate prepared to offer at 103.20, but reduced their price to 102.00, a 4.70% yield. The stock moved out very slowly, but now is bid 108.00 a 4.44% yield. Consumers Power (Michigan) offered through bankers a preferred with $4.52 dividend at price of 102.725 to yield 4.40%; when the syndicate closed after a month more than half the shares were still unsold, and in the market the stock was bid 97.50. It is now bid 109.00 to yield 4.15%.

New offerings of utility preferred stocks lately have certainly found a more receptive market than they did even a few months ago. But offerings of telephone utility preferreds have been small and few.

But overbidding can prove unprofitable in the preferred stock field, just as in any other. A banking group in mid-February bought from New Jersey Power and Light 20,000 shares of new $4.05 preferred at 100.82, and scheduled the resale at 102.50. But before offering they found it advisable to cut the price to 101.25, a figure at which their gross profit was only 43 cents a share. No percentage in this kind of business for anybody, it doesn't do even the issuing company any good.

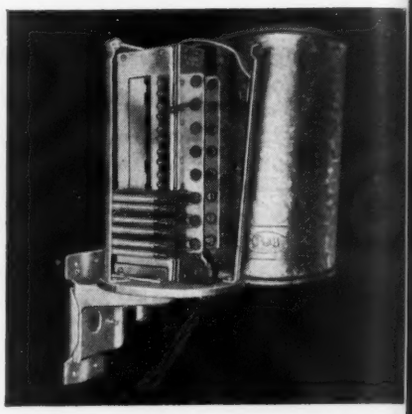
Common Stocks

ALTHOUGH total new capital for corporations obtained through the sale of securities in 1949 was less than in 1948, $4,909 million against $6,258 million, the amount raised through sale of stocks was both absolutely and proportionately greater, $957 million against $912 million. The switch was most pronounced in the case of public utilities,

(Please turn to page 66)

STROMB

cook type S-20
pole cable terminal



Can be used as a protected or unprotected terminal. Made in 6, 11, 16, or 26 pair capacity.

Cook Type S-20 Pole Cable Terminals are carefully engineered to offer the user:

MAXIMUM ECONOMY—because Cook Type H 20 Protector Units, containing fuses and primary and secondary lightning arresters, are added only as they are required.

MAXIMUM CONVENIENCE for installation and servicing. Drop wire connections are at front. Drops are led through individual insulating knockout holes. Self-soldering nozzle lies close to pole. Hood locks in raised position for working. Separate mounting bracket eliminates gaining of pole and provides easy installation.

MAXIMUM PERFORMANCE when used separately or as part of the Cook Trans-Mount System of Protection and Distribution. S-20 is of all steel construction, hot galvanized. Complete terminal designed for maximum insulation.

STROMBERG

STROMBERG Telephone CARLSON

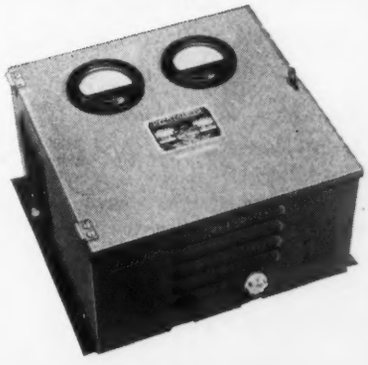
TELEPHONES, SWITCHBOARDS • SOU QUIPMENT

BERG-CARLSON recommends...

for accurate and rapid wire stringing or checking USE the dillon dynamometer

There's no guessing or uncertainty when a scientific Dynamometer is used to check wire tensions. *Easy* to use, *easy* to read, dead accurate. Works on new leads going up or *old* leads long established. Hundreds of satisfied owners in telephone and power fields. Reasonably priced. Decide *now* to save time and money with this useful tool. Prices on request.

... dependable battery charging with the raytheon recticharger*!



A small storage battery floated across the terminals of a Raytheon Recticharger provides closely stabilized DC voltage . . . longer battery life . . . and improved operation of manual or automatic telephone systems.

These are *proven* advantages that stem from exclusive design and long service to the telephone industry.

When replacing, expanding, or modernizing switchboard equipment, utilize Raytheon's extensive field experience and complete line. Available from 1.0 to 24.0 amperes with either 24 or 48 volt output.

*Reg. U. S. Pat. Off.

for flattened or rusted studs and bolts

buckingham's rapid thread cleaner

No need to remove a damaged stud . . . no time-consuming backsawing, drilling or re-tapping. Slip this ingenious tool over the mutilated stud, bolt or shaft, tighten the cutting jaws, give a twist or two—and presto! flats smooth out, threads emerge slick and clean.

For right or left-hand threads with root diameter from ¼" to 4". Separate cutting dies not needed—the adjustable cutting jaws are set on the bolt and locked there by a nut on the knurled handle. Three sizes:

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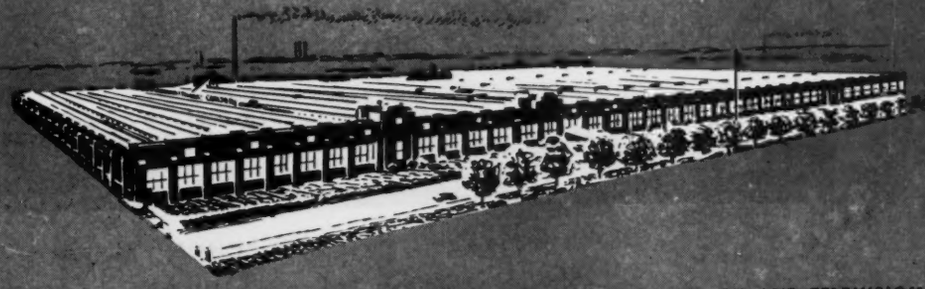

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which in 1949 sold stocks for $705 million new capital against $370 million the year before. By contrast, sales of utility bonds for new capital aggregated only $1,826 million in 1949, against $2,506 million in 1948.

The development outlined above is all to the good, it soothes the grief previously expressed here and elsewhere over the mounting debt of the utilities. In percentage the figures are strengthened: including reinvested earnings the electric companies last year financed their construction 54% through long term debt, 13% preferred stock and 33% common stock equity. These figures contrast with 69% debt, 12% preferred and 19% common stock equity in 1948. Comparable figures for the telephone utilities are not yet available.

Despite the larger number and higher dollar value of utility common stock offerings during the past four months, most of the issues were easily taken, many over-subscribed. Among these were the Detroit Edison 679,812 shares, Northern States Power 1,584,238, Southern Company 1,500,000, Ohio Edison 1,142,095, Consumers Power (Michigan) 454,457 shares. Most of these were offerings to stockholders and were taken by them, leaving little or nothing for underwriters to offer the public.

Few large issues of utility common stocks were overbid, although some of the smaller issues were. One large offering, $12,000,000 Middle South Utilities in January, was sold to the underwriters as 18.545. The 640,000 shares were first offered in resale at 19.125, but after the offering group had placed only about one-third of the issue at this price, they found it necessary to reprice it to 18.75.

Overpricing of new common stock is easy to do in a period of scant supply of new security issues, bonds and stocks, available for underwriting and reoffering by investment houses; competition forces buying prices up and thins profit margins. This is especially so in a stock market which has been fluctuating as this one has done the last two months or more. For six months to the end of 1949 the trend was strongly upward, but since the turn of the year there have been numerous little setbacks and little or no net progress on the upside. Downward repricing of an issue that was overpriced at the time of offering does not necessarily mean that the stock will not later sell at the original offering price, or higher. But investors in new issues are often cautious and shrewd.—THE END.

Western Telephone Co. Incorporates

The Western Telephone Co., Weaverville, Calif., has been reorganized as a California corporation with an authorized capital stock of $200,000.

Officers of the new corporation are W. Gilman Snyder, president; Lucille Snyder, vice president; and Elwin E. Bagley, secretary-treasurer. The main offices of the company will be at Weaverville.

"The company has disposed of its telephone properties in Amador and Calaveras counties," President Snyder said, "and will expand its operations in Trinity, Humboldt and Mendocino counties."

The California Public Utilities Commission has authorized the sale of $37,000 preferred stock for immediate additions to the company's Trinity county operations. The additions authorized are planned for completion during 1950 and involve additional circuits to Hayfork and vicinity and to the Salyer-Willow Creek area, new cable in Weaverville, and added service to other areas, but is only a portion of the company's plans for Trinity county.

Plans for increased operations in Humboldt and Mendocino counties are nearly complete and will be announced in the near future.

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Small Company Talk

(*Continued from page* 39)

NOW, WHAT about the labor? We said that the value or cost of the labor was to be debited to Station Wiring, as well as the material value. What is the corresponding credit? Let's take an example again.

At the end of a week, or two weeks, or month, you pay the salary of the man who does your installing (among other things). When you pay him, you credit cash and debit something. What you debit depends upon how you keep your books. You may distribute the salary directly—that is, you may figure up how much of the salary is to be charged to expense, how much to Station Wiring, how much to other plant accounts, etc. Or, you may debit it to some account called Payroll (or something else—what you call it doesn't make any difference), and then at the end of the month distribute your payroll account between the plant and expense accounts on which the labor was actually expended.

In a small company, I favor the direct distribution, without taking the values through a third account, for I find that it occasions less confusion. (In a like manner, for the small company, I do not favor keeping a Material and Supply account, but charging all material directly to plant or expense at the time it is received—this is not absolutely accurate, but the small plant manager can usually make a pretty good guess as to just about exactly what he is going to do with each bit of material he orders.)

Remember, we are talking about *New Installations*. In summary, then, the material and labor that go into new installations should be debited to Station Wiring, and credited to cash as the cash is expended (assuming direct distribution of materials and labor).

Now, let's take the opposite case—the actual removal of an installation. What is the entry for that? In class "C" accounting, the entry is a debit to Reserve for Accrued Depreciation and a credit to Station Wiring, for the value of the complete installation (material and labor). Determining what this value is, however, is a subject all its own, and the only accurate method I know of determining the value is the maintenance of a "Continuing Property Record".

A good shortcut for Station Wiring values, however, can be had by dividing the total value in the account by the number of main stations you have in service. The result is the value of each installation, and whenever you take one out of service (remove it), it is perfectly permissable to use this average value.

For example: in your Station Wiring account is a total value of $3,600.00; you have 360 main stations in service; $3,600.00 divided by 360 equals $10.00, which is the value of each station installation, on the average, in your plant. Thus, when you remove an installation, you would debit Reserve for Accrued Depreciation with $10.00 and credit Station Wiring for $10.00.

If there is any usable salvage, the value of this salvage should be debited to whatever you use the salvage for (if you use it in another new installation somewhere, then the value of the salvage should be debited back to Station Wiring) and the credit is to Reserve for Accrued Depreciation.

Now, suppose that you didn't remove the drop and installation at all, but just disconnected it and left it in place. What is the entry? The entry is just exactly the same as if you had actually removed it—a debit to Reserve for Accrued Depreciation and a debit to Station Wiring. (You won't have any salvage to worry about, of course.)

Next, suppose you reuse or reconnect an installation that had previously been disconnected. What is the entry? The entry is just exactly *opposite* to the above entry—the debit is to Station Wiring and the credit is to Reserve for Accrued Depreciation. The amount to be respectively debited and credited is still the (using our above example) $10.00. The labor expended on the reconnection (and, in the case above, on the disconnection) is charged (debited) to expense.

Next on the list—Moves. What entry do you make there? It depends. If the move is slight, say from one room to another, we simply charge all time (labor) and material that is used in the move, to expense, and let the plant account alone. If, however, the move entails changing from one house to another, then we consider that the installation in the new house is a new installation, and the move from the old house is a disconnection, and we account for each separately, as described above for those two types of jobs. In other words, it is the same as if one subscriber discontinued his phone, and the drop was

(*Please turn to page* 72)

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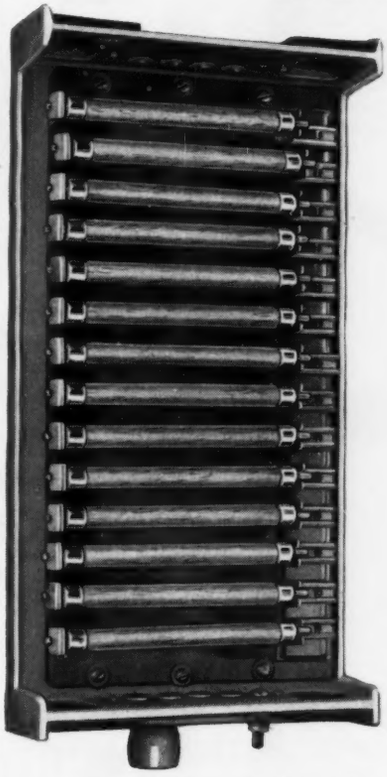

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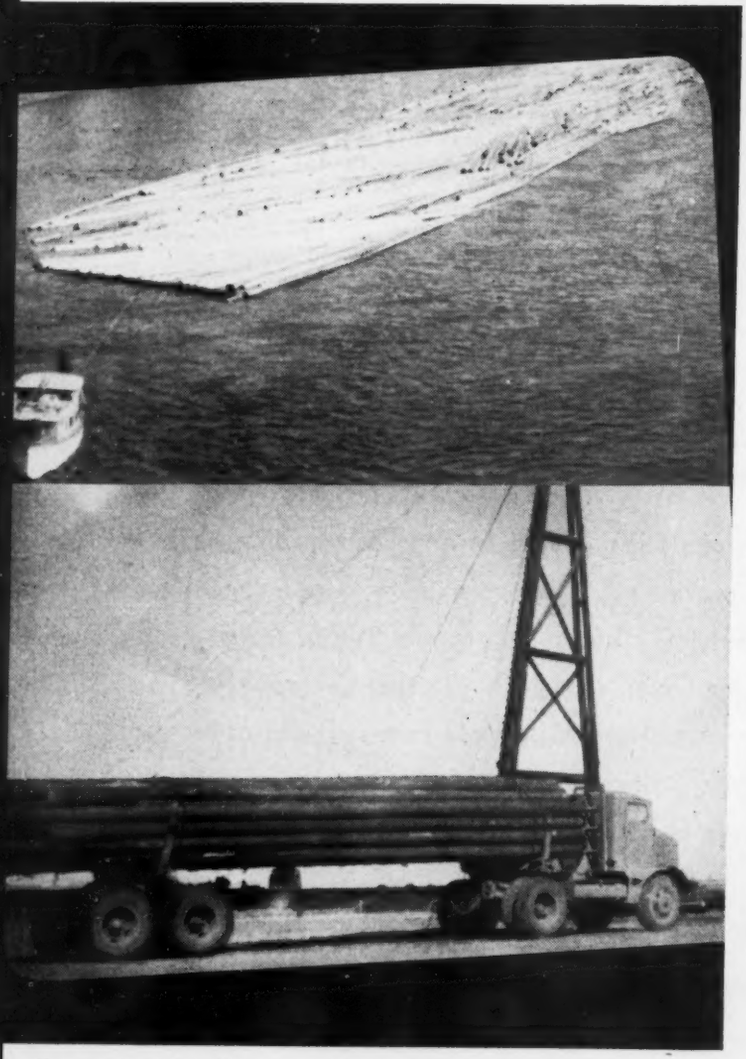

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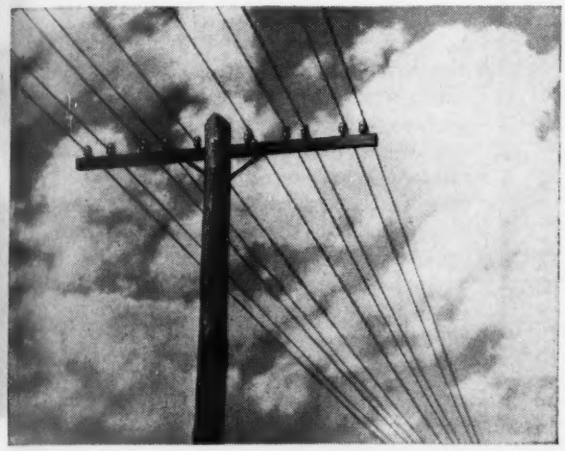

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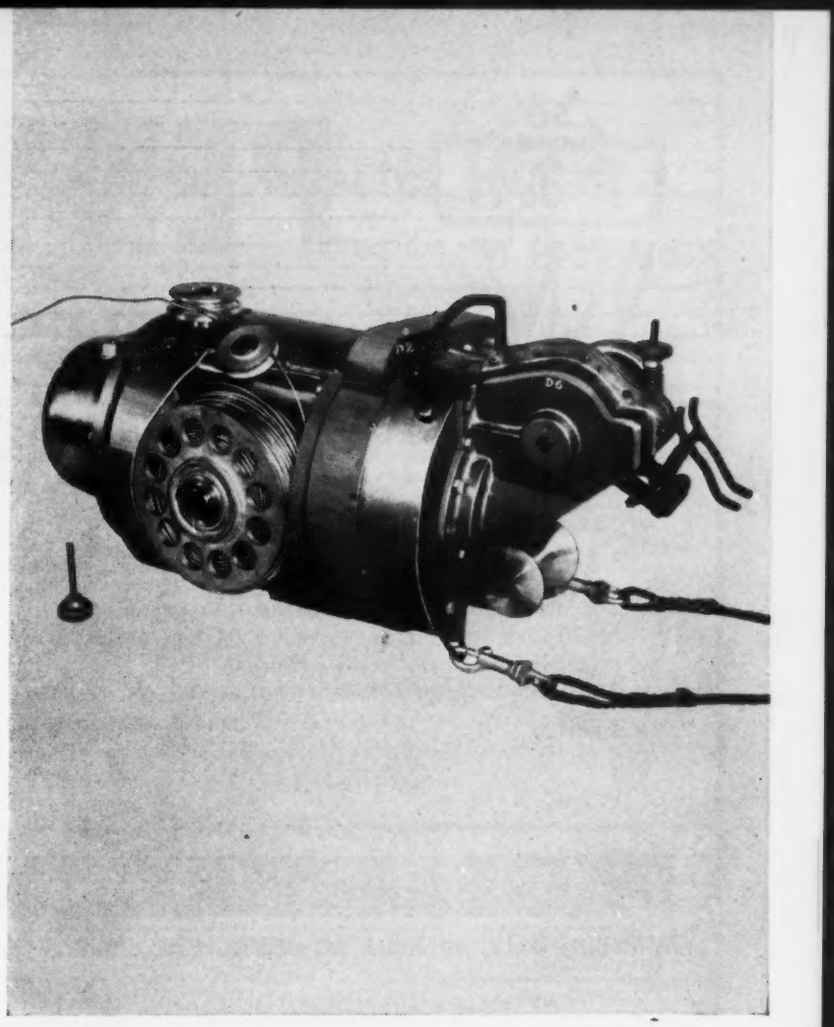

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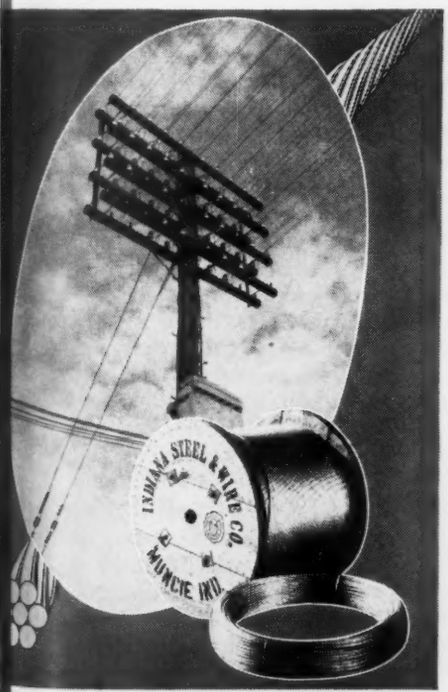

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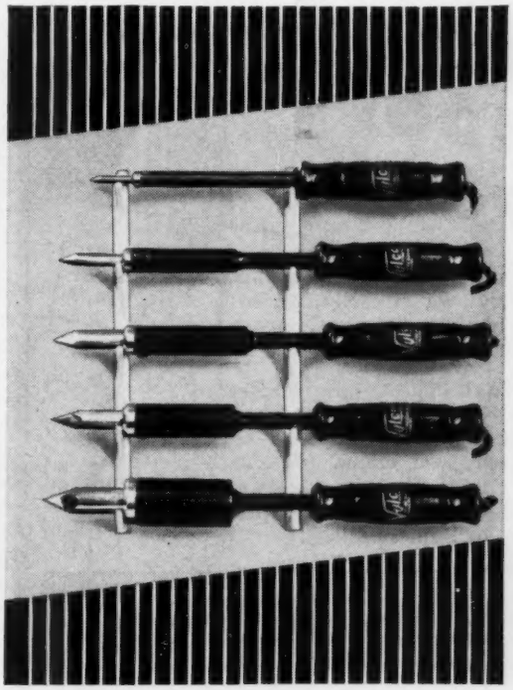

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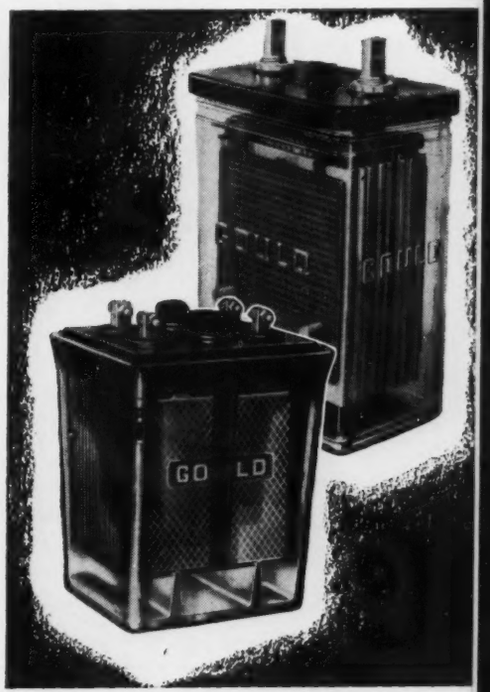

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left disconnected; and another subscriber had a phone installed.

If there was already a drop (which had previously been left disconnected) at the place the subscriber is moving *to,* then no entry at all is necessary, because the disconnection entry and the reconnection entry exactly offset each other. Any labor expended in such a situation is charged (debited) to expense.

When repairs are made to an installation, the cost of the materials and labor expended on the repair job is charged (debited) to expense. If a complete installation is renewed, then the job is treated as if it were two seperate jobs—the installing of the new installation is accounted for as described in that part of the above discussion, and the removal of the old installation is accounted for as discussed under removals.

There is one thing that I have left unsaid. When an installation is removed, the labor cost of removing it is charged (debited) to Reserve for Accrued Depreciation.

As I said when I began this, it is complicated, and if I have lost you somewhere along the last few columns, all I can suggest is that you go over this part again. The actual bookkeeping job of keeping up with all this mess and mass of material and labor, however, is not so hard as it may seem. On EACH work order should be checked what happened to the installation—that is whether it was a new install, a removal, a disconnect or a reconnect, or, in the case of moves and changes, perhaps a combination of two of those. The information on each work order should stand alone, and not on the information on another order to complete the picture. At the end of the month, each of these situations can be tallied, and one entry made for the total number of removals, another for the total number of disconnects, and another for the total number of reconnects. No special entry has to be made for the new installs, since the values will get into the proper account when the materials purchased, and payroll payments, are put into the books, as discussed under new installations above.

I have mentioned several times, in different connections, the distribution of labor, and the charging of this and that account with the labor expended doing thus and so. All this involves, as you have undoubtedly recognized, some *method* of recording who spends how long doing what. This labor distribution is the point at which many otherwise good accounting system fall down. All labor is merely (and

most easily) charged to some sort of expense—which is, of course, wrong. But this is a whole subject in itself—one that I intend to cover in some detail at a later date, in a *Small Company Talk article.*—THE END.

J. M. Spangler Named National Carbon President

J. M. Spangler, former director, vice-president and general manager of the National Carbon Division of Union Carbide & Carbon Corporation, has been appointed president of the division after 35 years of service.

Levis & Eastwood Retire From Stromberg-Carlson

Company officers, co-workers, and friends of John H. (Mike) Levis Jr. and Warren Eastwood paid tribute to their 47 and 44 years, respectively, with the Stromberg-Carlson Co., Rochester, N. Y. at a testimonial banquet recently, marking their retirement from active service. Levis, assistant chief telephone engineer since 1940, will remain with the company on a consulting basis.

Eastwood, also an engineer, who with Levis designed and constructed the first Stromberg-Carlson radio in the early '20's, was the firm's advertising manager for 23 years and for the last five years has been staff assistant to the general manager's office. He was born in Afton, Minn., and was graduated from Des Moines University in 1906.

He joined Stromberg-Carlson immediately after graduation and rose from factory and engineering posts to engineer in charge of equipment drawings in 1912. Four years later he was made a sales engineer, a position he held until his promotion to advertising manager in 1920. He is married and has three children.

Levis, one of the most popular and widely known men in the telephone industry, whose patents and inventions are credited with having increased efficiency to the extent that manual telephone operators could handle one-third more calls, reduced operator fatigue, and accounted for increased employment by the manufacturing firm, was signally honored a decade ago on the 150th anniversary of the U. S. Patent Office when he and other prominent inventors of Western New York were given "Modern Pioneers of America" awards by Dr. Karl T. Compton, then president of M.I.T., at a giant presentation banquet at the Rochester Chamber of Commerce.

Levis, born and educated in Roch-

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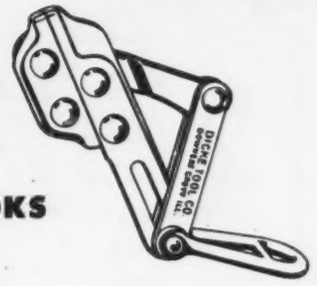

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Robert C. Tait, center, president of the Stromberg-Carlson Company, congratulates Warren Eastwood, left, former advertising manager, and John (Mike) Levis, assistant chief telephone engineer, at testimonial dinner marking their retirement. Eastwood and Levis, both engineers, designed and made Stromberg-Carlson's first radio more than quarter century ago.

ester, entered the Stromberg-Carlson installation department in 1903 before the company's main manufacturing facilities had been moved from the original Chicago location. He went into the engineering department the following year and in 1905 was transferred to the switchboard department. Five years later his proficiency in this phase of telephony was recognized and he was returned to the engineering department and placed on the development of circuits and equipment.

Most of his patents are in the field of manual switchboards, but some relate to automatic equipment. He helped develop and install Rochester's first automatic system 40 years ago, the old Park exchange, and has traveled for the company throughout the United States in the capacity of sales engineer and consultant.

Copperweld Makes Executive Appointments

William J. McIlvane, executive vice president of the Wire & Cable Division of Copperweld Steel Co., Glassport, Pa., has announced the appointment of Paul Van Wagner as Vice president-sales of the company's domestic and foreign marketing operations. Mr. Van Wagner formerly directed Copperweld's Export Division, with headquarters in New York. Prior to that he was manager of sales covering the eastern part of the United States.

Other appointments involve William W. Ege who will take over the

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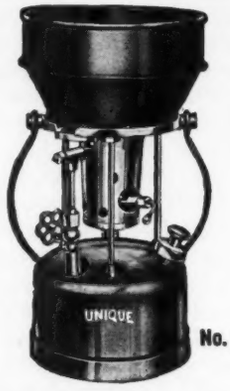

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MUNCIE, INDIANA

responsibilities of the newly created post of vice president and chief engineer—an important assignment in Copperweld's new organizational set-up. Reporting to him will be F. E. Leib, who was just transferred to the position of chief electrical engineer.

At the present time, P. A. Terrell, assistant vice president, is promoted to vice president. He will be responsible for Federal Government activities. Henry Oberle, who has been Copperweld's Eastern District sales manager is appointed utility sales manager.

A. L. Middlebrook Joins Lone Star

A. L. Middlebrook of Texarkana, former sales manager for the Southwestern Division of Koppers Company, Wood-Preserving Division, has been appointed as traffic and sales consultant to Lone Star Creosoting Co., Longview, Texas, according to announcement made by Reding Putman, owner and general manager.

Mr. Middlebrook, who is known as "Sam" to his friends and customers, has over 20 years experience in the Wood-Preserving field and his appointment as sales consultant is a part of a long range expansion program now under way at Lone Star Creosoting Co. which has been brought about particularly by a growing demand for the company's products by Texas dealers, Mr. Putman stated.

A. L. Middlebrook (seated) and son, A. L., Jr., have joined Lone Star Creosoting Co., Longview, Texas.

A. L. Middlebrook, Jr., Mr. Middlebrook's son, has also joined the company and has been assigned to do some special research, Mr. Putman added.

The products of Lone Star Creosoting Company, marketed under the

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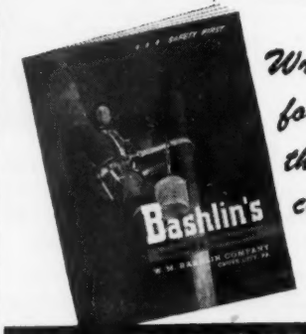
No. BD 14

Removable gaff forged from alloy steel, features triple locking device with standard self-locking tested steel screws



Write for this catalog

W.M. BASHLIN COMPANY
GROVE CITY 1, PA.

trade name, "Texas' Best", are now guaranteed for a quarter century, Mr. Putman said. All pressure-creosoted materials produced by Lone Star Creosoting Company are branded with a Texas star.

Lowell Manufacturing Telephone Wire Products

John V. Robinson, general manager of the Lowell Insulated Wire Division of the Overlakes Corp., Lowell, Mass., has announced that the Lowell Division is now manufacturing a complete line of wire items for use by the telephone industry. Mr. Robinson states that management of the Lowell Wire Division has had considerable experience in engineering, manufacturing and distributing telephone wire.

Since July of 1949 the division's present management has been renewing and building up plant operations in preparation for the manufacture of a full line of telephone wire products. During this period, management of the Lowell Division has made numerous sample runs and has subjected wires produced to exacting tests to assure quality of the wire which is now ready for production and to guide it in assuring manufacture of items capable of excellent performance and durability. Mr. Robinson claims that "the company now feels it is ready to offer a telephone wire line with confidence in its ability to turn in a high-grade performance and provide the durability required by the telephone companies."

The management of the company has also had a geat deal of experience in manufacturing a substantial portion of the wire requirements of the Western Union Telegraph Co. It supplied the Western Union company for many years with quantities of material which had to be made to very exacting standards. Much of the wire produced was custom made and was required to pass rigorous tests before shipment was made.

The Lowell Insulated Wire Co. was founded in 1903 by Reuben Dunsford who had wire and cable experience in England. The company operated as the Lowell Insulated Wire Co. from 1903 until July, 1949 at which time it became known as the Lowell Insulated Wire Division of the Overlakes Corp.

For many years the company was engaged in the manufacture of various forms of wire and cable. Major production in its early days consisted of automotive wires and cables as well as the flexible cord line which

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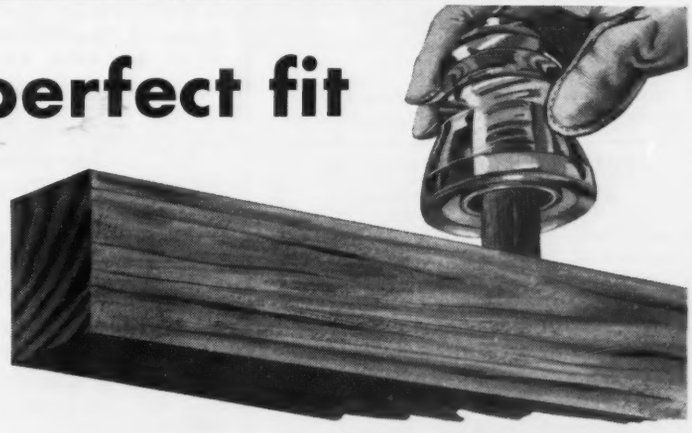

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John V. Robinson

is used by the electrical industry, mainly for orginal wiring equipment of various electrical appliances. For many years the majority of the company's business has consisted of flexible cords and cord assemblies, which are sold to manufacturers of electrical appliances, including manufacturers who produce various forms of communication equipment.

Mr. Robinson states, "the company has an excellent plant with fine manufacturing facilities, many of which have been recently added or put in to replace older equipment. A continuous modernization program is under way and the aim of the company is to continue to add further to its reputation for manufacturing products of high caliber. To do this, it intends to keep on the alert for improvements in manufacturing methods and in test methods."

For approximately nine years, general manager Robinson, was in executive and administrative capacties with the Acorn Insulated Wire Co., Brooklyn, New York, where he was executive vice-president and general manager.

Associates of Mr. Robinson include men with wide experience in technical and managerial capacities with Anaconda Wire & Cable and Rome Cable and Plastic Wire & Cable. According to Mr. Robinson, the staff of key personnel has had wide experience in all phases of wire manufacturing, including engineering, rubber and plastic chemistry and compounding, inspection, quality control work, mechanical and electrical experience with wire making machinery and auxiliary equipment, production, purchasing, selling and other important phases of company operation.

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FOR SALE—One complete North Electric CX-30, automatic switchboard 30 lines, capacity 26 local lines, 4 trunks, code ringing. Installed Aug. 1, 1947, in perfect condition. Can release about July 1st. Priced at 15% less than new price. Write Campbell-Terrell Telephone Co., Hanover, Va., or Call Dawn 3251.

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Above switchboards are excellent field equipment for both temporary and permanent installations.

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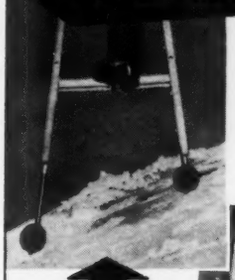

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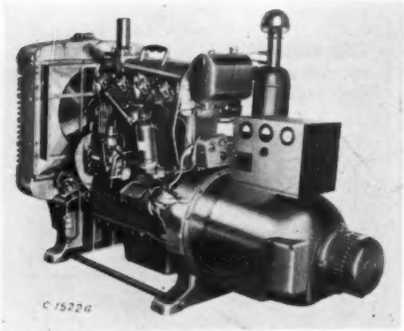
the New Products Showcase

New Products & Supplies of Practical Interest



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These units are equipped with Onan voltage-regulated-type generators. Permanently aligned, they are designed and constructed to make them suitable for operation under all climatic conditions. Perfectly matched, these Onan-I H engine-generator units assure maximum dependability and economical performance.—Check New Product 222.

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ANCHORS, Plastic Expanding, Universal. All Purpose—Mount in any Material, Holub Industries, Inc., 424 DeKalb Ave., Sycamore, Ill.—**[ADV. 5]**

ANCHORS & WIRE CONNECTORS—Matthews Scrulix Anchors, Matthews Telephone Wire Connectors. Write for bulletins. W. N. Matthews Corp., St. Louis 16, Mo.—**[ADV. 6]**

BATTERIES, Dry Cell—The Ray-O-Vac Company, 2317 Winnebago St., Madison, Wisc.—**[ADV. 7]**

BATTERY—WATER UNITS Demineralizers For Tap Water—A. E. Tomkin & Co., 1828 Columbia Rd., N.W., Washington 9, D. C.—**[ADV. 8]**

BELTS — CLIMBERS — COMPLETE LINEMEN'S EQUIPMENT, W. M. Bashlin Co., Bashlin Bldg., Grove City 1, Pa.—**[ADV. 9]**

BOOTHS—Acoustic Telephone—Sherron Metallic Corp., 1201 Flushing Ave., Brooklyn 6, N. Y.—**[ADV. 10]**

BOOTHS—Churchill Cabinet Co., 2119 Churchill St., Chicago 47, Ill.—**[ADV. 11]**

BRUSHES—Resistance Materials—Powder Metallurgy Parts—Keystone Carbon Co., Inc., Saint Marys, Penna.—**[ADV. 12]**

CABLE, All Plastic, Aerial, Duct, Direct Burial, PBX, Switchboard.—The Ansonia Electrical Co., Ansonia, Conn.—**[ADV. 13]**

CABLE SPINNING—The Cable Spinning Equipment Company, 432 Crane St., Topeka, Kans.—**[ADV. 14]**

CABLE TERMINALS—Channel Splicing Machine 2415 Roanoke Rd., San Marino, Calif.—**[ADV. 15]**

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CORDS, Instrument and Operators—Commermercial Cord & Supply Co., 26 Main St., Clifton Springs, N. Y.—**[ADV. 19]**

CORDS, Switchboard & Telephone—Runzel Cord & Wire Co., 4727-31 Montrose Ave., Chicago 41, Ill.—**[ADV. 20]**

CROSS ARMS—American Cross-Arm, Inc., 141 W. Jackson Boulevarl, Chicago, Ill.—**[ADV. 21]**

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ENGINEERING, Construction—Neale Construction Company, 432 Crane St., Topeka, Kans.—**[ADV. 24]**

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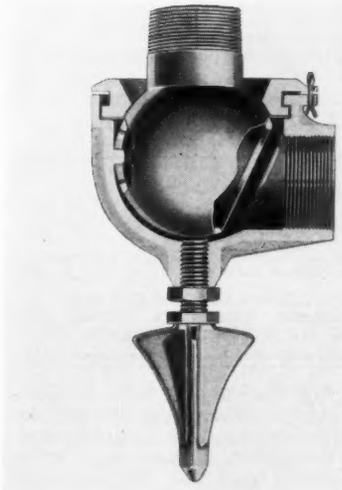
GLOVES—The Saranac Buckskin Linemen's Gauntlet made especially for linemen. Write for information, Saranac Glove Co., Littleton, New Hampshire.—**[ADV. 28]**

GROUND CLAMPS, Blackburn—Blackburn Specialty Co., 6525 Euclid Avenue, Cleveland 3, Ohio.—**[ADV. 29]**

GUY GUARDS & GUY WIRE PROTECTORS—Write for particulars, The Specialty Device Co., 1940 River Road, Cincinnatti, Ohio—**[ADV. 30]**

INSULATORS, Porcelain—Porcelain Products, Inc., Box 300, Findlay, Ohio.—**[ADV. 31]**

LIGHTWEIGHT PULLERS—Coffing Hoist Company, 800 Walters St., Danville 5, Ill.—**[ADV. 32]**



Flexible end fitting for pipe arms is called the "Levelite." The "Levelite" consists of a ball and socket joint with pipe fitting, luminaire fitting, and spearhead lock bolt. A lug in the housing limits the rotation of the ball to 17° from the vertical in any direction, thus preventing injury to the cable. The fitting is provided with a gasket which seals out all moisture. The illustration shows the construction details.

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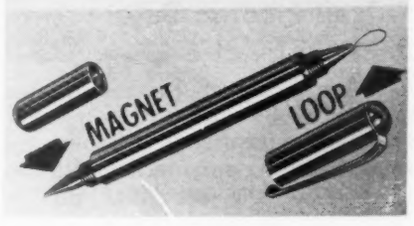
POLES, Contract Inspection & Preservative Ground Line Treatment—Osmose Wood Preserving Co., 1443 Bailey Ave., Buffalo 12, N. Y.—**[ADV. 42]**

POLES—Brown Creosoted Pine Poles. Brown Wood Preserving Co., Inc., Martin Brown Bldg., Louisville 2, Ky.—**[ADV. 43]**



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POLES, Southern Yellow Pine—Taylor Colquitt Company, 290 E. Main St., Spartanburgh, S. C.—**[ADV. 49]**

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TRUCK BODIES—Highway Trailer Co., Edgerton, Wisc.—**[ADV. 63]**

TRUCK BODIES AND EQUIPMENT—McCabe Powers Auto Body Co., 5900 N. Broadway, St. Louis 15, Mo.—**[ADV. 64]**

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WIRE, TELEPHONE, for all inside and outside uses—The Whitney Blake Co., Box K, Hamden, Conn.—**[ADV. 70]**

WIRE CUTTERS—H. K. Porter, Inc., 74 Foley, Somerville, Mass.—**[ADV. 71]**

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Homelite Creates New Sales Territories

Homelite Corp., Port Chester, N. Y., has announced the creation of four new territories in the southeast section of the country, to handle the sales and service of Homelite gasoline-engine-driven pumps, generators, blowers and chain saws.

In making this announcement, Nelson Thompson, vice-president and sales manager of Homelite Corp. said, "We are making this new territorial set up to assure the best possible service to Homelite users in the southeast. Our former southeast territory included all the states south of Kentucky and Virginia, and east of the Mississippi River. We are now setting up four separate districts in the southeast with headquarters in Memphis, Charlotte, New Orleans and Jacksonville. We will also maintain complete service and repair facilities in Atlanta and Birmingham".

Bill Bedford has been appointed manager of the Memphis territory, and will cover most of Tennessee and Mississippi, the northeast third of Arkansas and ten northern counties in Alabama.

Ty Lubby has been appointed manager of the Charlotte territory, and will cover North Carolina, South Carolina and twenty four counties in eastern Tennessee. Jim Anderton has been appointed manager of the New Orleans territory, and will cover Louisiana, southern Arkansas, twenty four counties in southern Mississippi, the southwest corner of Alabama and the two western counties in Florida. Norman Supove has been appointed manager of the Jacksonville territory, and will cover Georgia, Florida and central Alabama.

Vulcan Electric Buys Jackson Electro Corp.

The business of Jackson Electro Corp., 124 Bleecker St., New York City, manufacturers of soldering irons, has been purchased by Vulcan Electric Co., Danvers, Mass., makers of the Vulcan line of electric soldering tools.

Manufacturing operations will be transferred to the Vulcan plant in Danvers, but in the field the Jackson name will be maintained, as will the usual Jackson policies.

The present agents and representatives of the Jackson Corporation will represent Vulcan for the Jackson line. For the accommodation of New York City customers, a stock of Jackson soldering irons will be kept in Vulcan's New York office.

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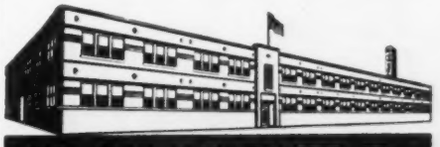

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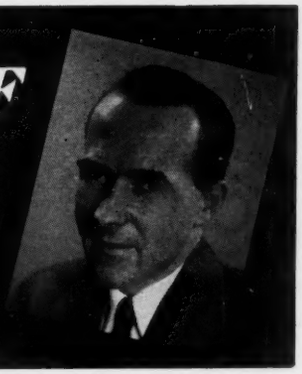

By JOHN G. REYNOLDS
Managing Editor

The Cow Story Up-To-Date . . . It doesn't make any difference whether you are a Republican, a Democrat or an Independent, the following article from the Bernice, La., News-Journal is good for all to read who wish to see our American system of representative government survive.

Capitalism: If you have two cows, you sell one and buy a bull.

Socialism: If you have two cows, you give one of them to your neighbor.

Communism: If you have two cows, you give them to the government and the government gives you milk.

Fascism: If you have two cows, you keep the cows and give the milk to the government.

New Deal: If you have two cows, you shoot one, milk the other, then pour the milk down the drain.

Fair Deal: If you have two cows, you let them starve so you can buy your milk in cans, thus making business better.

• • •

Those 'Scare Words' . . . Government officials who can't silence criticism by any other means usually try ridicule. People who criticize the Fair Deal are said to be "afraid of more democracy and greater freedom." And there are those who scoff at the terms "welfare state" and "statism" as "political scare words," and claim they have been unable to find definitions for either term.

In the circumstances, a little booklet being distributed by the American Enterprise Association of 4 East 41st Street, New York, ought to be must reading for the scoffers. It is by Former Senator Joseph H. Ball of Minnesota and its title is "Where Does Statism Begin?"

We have no way of knowing how many Americans have been fooled by ridicule of the terms "welfare state" and "statism" as "scare words," but there certainly is need for the honest discussion provided in the American Enterprise study.

• • •

Lending Library . . . Only a few of the more exclusive hotels in Paris have telephone directories in each room, according to a report from France. In most hostelries, the guest calls the desk, asks to have a directory sent up and then sits down and waits. In about half an hour, the bellhop brings up the book and stands on one foot and then on the other while the guest looks up the number. Then the bellhop continues standing around until he gets his tip, after which he tucks the book under his arm and goes off to wait for opportunity to ring again.

• • •

Whittling Wizard . . . There's a man in Connecticut who scares the feathers off red-crested woodpeckers, the hearts out of red-capped hunters and the climbers off red-faced Linemen. And none of his victims ever see him. He got into the bogey business when he was called into a feud between the woodpeckers and the power company whose poles were being bored by the redheads. The whittler carved out a collection of hideous heads, attached them to appropriately painted lengths of garden hose and wrapped his realistic snakes around besieged poles. The woodpeckers came for dinner, got one look that killed their appetites and bailed out for far places. The hunters and Linemen finally caught on but only after eye-popping scares.

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The National Telephone Supply Company

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Canadian Mfr.—N. SLATER CO., LTD., HAMILTON, ONT., CANADA

Export Distributor—INTERNATIONAL STANDARD ELECTRIC CORP., NEW YORK, N. Y.

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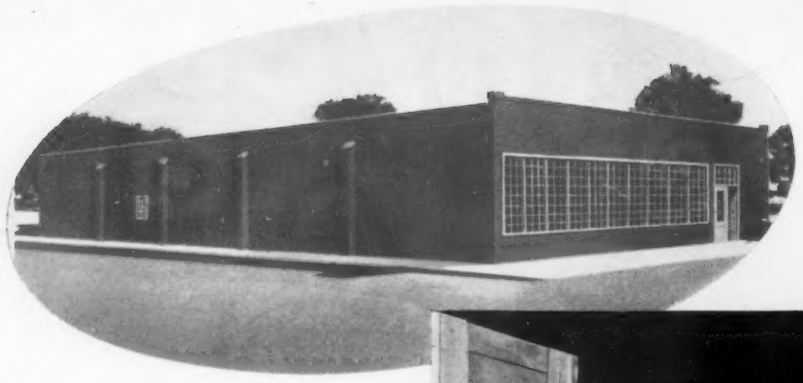

North's plant at Upper Sandusky, Ohio

...YOUR SWITCHBOARD?

If it is, you will soon count yourself among the hundreds of satisfied North "All-Relay" users.

Why? Because quality control is maintained from the drafting table to the shipping room. Our factories at Upper Sandusky, Kenton, Mount Gilead and Galion, Ohio all maintain the high standards that have long been recognized in North "All-Relay" systems. And too, you buy years of experience when you buy North.

If your "All-Relay" switchboard isn't on order, contact a North sales engineer—he will furnish expert advice on your problems.

THE NORTH ELECTRIC MANUFACTURING CO., Galion, Ohio, U. S. A.

Originators of **ALL RELAY** *Systems of Automatic Switching*